

REVIEW AND APPROVALS

MINNESOTA VALLEY NATIONAL WILDLIFE REFUGE

Bloomington, Minnesota

ANNUAL NARRATIVE REPORT

Calendar Year 1984

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3/13/85
Date

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3/14/85
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INTRODUCTION

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OVERVIEW

1. Introduction

The Minnesota river valley has been subjected to a variety of forces during its history. Until the 1860's it was a major trade and travel route for the Indians, the early traders and explorers and finally, a route for the big paddlewheel steamboats. After the Civil War, the development of railroads made the paddlewheels obsolete, and the river was forgotten for many years until the 1930's, when attention was focused on it from two different quarters: recreation and industry.

The recreational significance of the valley was formally recognized in 1934 when then Governor Floyd B. Olson proposed a 42,000 acre park between Fort Snelling and Shakopee. Perhaps the second World War diverted public attention from parks; at any rate, little was done, and thoughts of the valley as a major recreational resource remained dormant for over 20 years.

World War II began the industrialization of the river. In Savage, the Cargill Co. made Liberty ships for shipping war materials to Europe. Later, this activity transformed into terminals for shipping grain down the Mississippi River. Then came the giant landfills, new highways and bridges and the Savage and Burnsville portions of the floodplain were lost forever for wildlife.

The 1960's saw a resurgence of interest in the recreational potential of the valley. Fort Snelling State Park was authorized in 1961, followed by unsuccessful proposals for a state forest and Carver State Park (1965, 1966). In 1968, the Minnesota River Boating and Trail Association privately funded a feasibility study which culminated in legislative authorization in 1969 of the Minnesota Valley Trail from Fort Snelling to Le Sueur, Minnesota. Aside from the authorization of Fort Snelling State Park, this was the first formal endorsement of 1930's-era plans for recreational use of the valley and signaled a change from the exclusive commercial use of the valley that had been predominant for the previous three decades.

Concerned about continuing commercial and industrial development of the valley and armed with a new environmental awareness, citizens in Bloomington and Burnsville began organizing in the early 1970's to seek further protection of the wildlife habitat in the Minnesota valley. Their ambitious efforts were finally rewarded with federal legislation in 1976. The federal legislation is the Minnesota Valley National Wildlife Refuge Act of 1976 (PL 94-466). This act declared that the policy of the Congress would be to establish a Minnesota Valley National Wildlife Refuge and adjacent to that a wildlife recreation area.

The wildlife recreation area is to be established in cooperation with the state of Minnesota and its political subdivisions, and the Minnesota Valley State Trail is to be provided for as an integral part of the refuge and wildlife recreation area along the lower 36 miles of the Minnesota River.

2. Overall Goal

To preserve the valuable natural and cultural resources of the lower Minnesota river valley while providing wildlife-oriented recreation and educational opportunities for a broad spectrum of the population. The importance of agency and community coordination, energy conservation, special population needs, and the integrity of wildlife and plant communities will be recognized in reaching this goal.

3. Area Goals

Refuge - To manage the natural resources for the perpetuation of wildlife species' and ecological communities' natural diversity and abundance, as well as to provide opportunities for wildlife-oriented recreation and an educational center for the study of natural systems.

Recreation Area - To develop complementary recreational and educational opportunities compatible with the natural and cultural resources of the Minnesota valley and the needs of the refuge.

State Trail - To develop an accessible and scenic recreational travel route with support facilities which connects and complements related public lands and commercial services.

4. Description of the Area

Within the Minnesota Valley National Wildlife Refuge and Recreation Area there are three major subdivisions: the Minnesota Valley National Wildlife Refuge, the Minnesota Valley Recreation Area, and the Minnesota Valley State Trail.

The refuge is divided into seven different units. These include the Long Meadow Lake unit, the Bloomington Ferry unit, the Wilkie-Rice Lake unit, the Upgrala unit, the Chaska Lake unit, and the Louisville Swamp unit. Lands adjacent to the Black Dog Lake power plant owned by Northern States Power Company (NSP) will also be managed by the FWS under an agreement between the FWS and NSP. All of the refuge units discussed will be part of the National Wildlife Refuge System, and, as stated, will be managed by the U.S. Fish and Wildlife Service. Traditionally, refuge lands have been acquired and managed for the benefit of wildlife resources, with a primary emphasis on waterfowl. However, the mandate establishing the MVNWR also places emphasis on public use activities, directing the development of this refuge to provide compatible opportunities for observation, wildlife-oriented recreation, and environmental education.

The Minnesota Valley transects the Minneapolis-St. Paul metropolitan area in a northeast direction and contains lands which typify an urban to rural continuum. The following cross-section of the valley, from the river across the floodplain and up the bluff shows distinct vegetational zones. The vegetation changes from moist, grassy meadows and bottomland woods, to northern hardwood forest, to dry upland forest near the top of the bluff, and finally to prairie grass or big

woods. Small 1-2 acre prairie and oak savanna areas are scattered throughout the valley on low terraces. See Figure 1 which illustrates a cross-section of the valley.

A natural levee along the river channel has created an almost continuous belt of Type III and IV wetlands between the toe of the bluff and the river. These wetlands are very biologically productive and of considerable importance to wildlife, particularly waterfowl. On an average, the elevation of these wetlands is about ten feet higher than the normal river water level of 688 feet, and they have a depth of two feet.

The ground water table near the valley slopes gradually downward to the river causing seepage which emerges from the ground as springs and artesian wells. These sources provide excellent quality water for the valley's wetlands, and in some areas, help to create plant communities which are extremely rare and of statewide significance.

5. Habitats

The lower Minnesota river valley is classified as a northern floodplain forest ecosystem. Located in a prairie forest transition zone, the valley contains mixed hardwood forest, oak savanna, and bluestem prairie. The many lakes, streams and springs exhibit diverse emergent and aquatic vegetation communities. The communities have been classified by species and their locations mapped using infrared aerial photography taken in August 1978. A total of 84 different codes have been used to describe the vegetation units within the refuge.

The 84 vegetation units were also categorized based on their similar biological requirements. This information has been mapped according to seven recognizable "vegetation communities" which were identified within the valley. These communities are described below, along with some of their representative species.

Floodplain Forest

Cottonwood, willow, elm, and maple trees along a river, partially submerged in the spring, are an outstanding feature of the floodplain forest. The understory developing after flood waters recede consists of dogwood, alder, nettles, and riverbank grape. This community type makes up 19.2% of the refuge lands and 25% of the recreation lands.

Hillside Forest

An overstory of oak and/or elm trees typifies the hillside forest community type with such plants as dogwood, sumac, hazel, chokecherry, prickly ash, etc., found growing under the tree canopy. The majority of this community type within the refuge is found along the bluff or hillside out of the floodplain. Only 3.3% of the lands within the refuge units consist of this community type and less than 10% of the recreation lands.

Oak Savanna

The oak savanna is best pictured as an area with two seemingly conflicting plant communities, both of which are struggling to be the dominant group. These two plant groups are the dry grass prairie and the oak forest. Fire plays the key role in this struggle by retarding the development of young oak trees while on the other hand sustaining the grass species. Old oaks which established themselves during a period of fire absence survive most of these hot grass fires. Only 2.6% of the refuge lands are of this type, and 87% of these are found in the Louisville Swamp unit. Also, 3.4% of the recreation lands are oak savanna, with 77% of it found in the Carver Rapids Wayside adjacent to Louisville Swamp unit.

Dry Grassland

The dry grasslands in the Minnesota Valley National Wildlife Refuge are characterized by small shrubs and the presence of perennial grasses. Some representative shrub species are sumac and hazel. Non-woody species are milkweed, thistle, big bluestem, switchgrass, etc. Only 3.4% of the refuge and 4.0% of the recreation lands are grassland areas. Like the oak savanna community type, our dry grasslands are located in the Louisville Swamp Unit.

Wet Meadow

The wet meadows are basically devoid of any major tree growth. The soils, although usually devoid of standing water, are waterlogged within a few inches of the surface. Vegetation typically found in this community includes goldenrod, smartweed, beggar-tick, reed canary grass, giant reed grass, etc. This community type also encompasses a large portion of the refuge, 22.1% of the refuge lands.

Emergent Community

The soils in the emergent communities are often covered with a few inches of water during the growing season. In the Minnesota river valley, this community type is often found bordering deep water marsh. Vegetation in these areas consists of such species as arrowhead, cattails, bulrush, wild rice, etc. This community type also encompasses a large portion of the refuge, 22.1% of the refuge lands.

Aquatic Community

This zone or aquatic community type is the transitional area in a wetland basin between the emergent plants and the open water. The soils are covered to a considerable depth by water during the growing season. The vegetation consists of submergent or floating-leaved aquatic plants such as water lily, duckweed, American lotus, etc. This zone on the refuge makes up 5.5% of the existing refuge area and 21% of the recreation area.

Summary

It is apparent that a major portion of the refuge lands are wetland areas. In fact, approximately 75% are wetland or open water, however, the percent for each unit varies from 51% for the Louisville Swamp unit to as high as 98% for the Black Dog unit. Of the remaining refuge land, approximately 10% is hillside forest, oak savanna, and dry grassland and approximately 15% agricultural lands.

MINNESOTA VALLEY NATIONAL WILDLIFE REFUGE

Bloomington, Minnesota

ANNUAL NARRATIVE REPORT

1984

A. Highlights

1. Minnesota Valley National Wildlife Refuge Act (PL 94-466)

An amendment to the Minnesota Valley National Wildlife Refuge Act was passed by the U.S. Congress on June 14, 1984 and signed by the President on June 25, 1984. The original Act, passed in 1976, included time and funding limitations that were restricting the refuge land acquisition program. As a result of efforts by the Friends of the Minnesota Valley the Minnesota Congressional delegation introduced and Congress passed an amendment that deleted the time limit on land acquisition and development and raised the funding limits to \$29,500,000 and \$9,000,000 respectively which should be sufficient for the foreseeable future. The new amendment also increased the size of the proposed refuge from 9,500 acres to 12,500 acres.

We think that this was a remarkable achievement as it removed major obstacles that were blocking the attainment of goals stated in the original legislation.

2. Metro White-tailed Deer Hunt

The successful operation of a Fort Snelling State Park-Minnesota Valley NWR deer hunt was a major accomplishment. It was the result of a carefully planned long-term strategy that was methodically followed over a period of several years including public involvement, timed news coverage and an incredible amount of coordination between the refuge, the state DNR and the local communities. While we didn't remove as many deer as desired we did establish that a public hunt could be conducted in the metro area safely and without controversy. The hunt is covered in more detail elsewhere in this report (See Section H).

4. Wilkie Park Transfer

After several years of our putting forth tentative feelers to the Hennepin County Park Reserve District (HCPRD) regarding an eventual transfer of the 1300 acre Wilkie Regional Park to the U.S. Fish and Wildlife Service, the HCPRD responded positively and at the close of the reporting period it appears that something will be accomplished. This is a major accomplishment as Wilkie Park can be managed to increase the wildlife and

recreational opportunities many-fold for the refuge. It will also greatly increase the visibility of the USFWS on that stretch of the river. The specifics of the transfer are described under Land Acquisition, Section C.

4. Ducks Unlimited Assistance

Another highlight at the end of the year was the news that Ducks Unlimited will fund the construction of the Jab's Farm dike and water control structure during 1985. This has been a high priority wildlife habitat improvement project for many years that always seemed far in the future because of the unlikelyhood of it being funded by the USFWS construction budget. This project will create a new impoundment of approximately 300 acres in the Louisville Swamp Unit and if it's construction goes smoothly there is a strong possibility that two other similar impoundments will be built in future years by Ducks Unlimited.

6. Bass Ponds Improvements by the City of Bloomington

In past narrative reports we have reported on a pending cooperative project with the City of Bloomington in the Bass Ponds Environmental Study Area. After several years of negotiating and planning, the project was completed this year and a new access road, two parking lots and three new water control structures were added to the Bass Ponds Area by the City of Bloomington as part of their storm water improvement project. This completes the majority of the major improvements to the area as described in the refuge master plan and the refuge staff need only add appropriate signing, develop additional EE teaching aids and open the gate for local school use (See Section F2 and I1 for more detail).

6. Headquarters Improvements

We frequently complain about the amount of planning we do but on this refuge there have been good paybacks for such effort and the new improvement on the headquarters area is an example of a long-term coordination-planning effort. Since the creation of the refuge the staff has been working with the Minnesota Department of Transportation and the City of Bloomington on improvements to I-494 in the vicinity of the refuge headquarters. This year much of that work was completed and there is now excellent Interstate Highway signing for the refuge, a new access road to the headquarters, an earthen berm and noise buffer fence. In addition to that the FWS paved its own headquarters roads and trails so now the entire complex is first-class and in keeping with a wildlife refuge setting at the edge of very sophisticated urban development (See Section I for more detail).

B. Climatic Conditions

Perversely matching the human body's temperature, snowfall in Minneapolis during the 83-84 winter totaled 98.6". We received 17" more snow than normal for the calendar year and 10" more precipitation. With so much insulating snow cover, the ground did not freeze deeply. Our greatest snowfall for 24 hours was 10.4" on March 4-5.

Spring thaw finally came in late March and with it severe flooding. By April, about 80% of the refuge was underwater. The Bloomington Ferry Bridge was closed twice, once for a two week period. All floods eventually recede and we were ready for this one to be over in late May. However, June was our wettest month and we had 2.94" of rainfall on the 7th and 8th. Floodwaters rose to their highest levels since 1969. At Black Dog Lake, our Wildlife Observation Area was totally underwater. Finally, July was relatively dry until the 10th when three more inches of rain fell. Oh Noah!

1984 did not have a hot summer and the official high was only 94 degrees on July 22nd. August and September were unexceptional but dry enough to get some road and dike repair work completed.

October was a pretty dismal month; the wettest in 13 years. Normal October rainfall is 1.85" and we received 5.48". November was on the the driest on record and December alternated snow and cold with warmth and rain that melted accumulated snow. That is not supposed to happen in Minnesota and it dropped cross-country skiers into fits of depression.

The year's climate for the Minneapolis, Minnesota area is summarized on the following page. The data is recorded at the International Airport, about a mile north of Refuge Headquarters.

Twin Cities weather for 1984

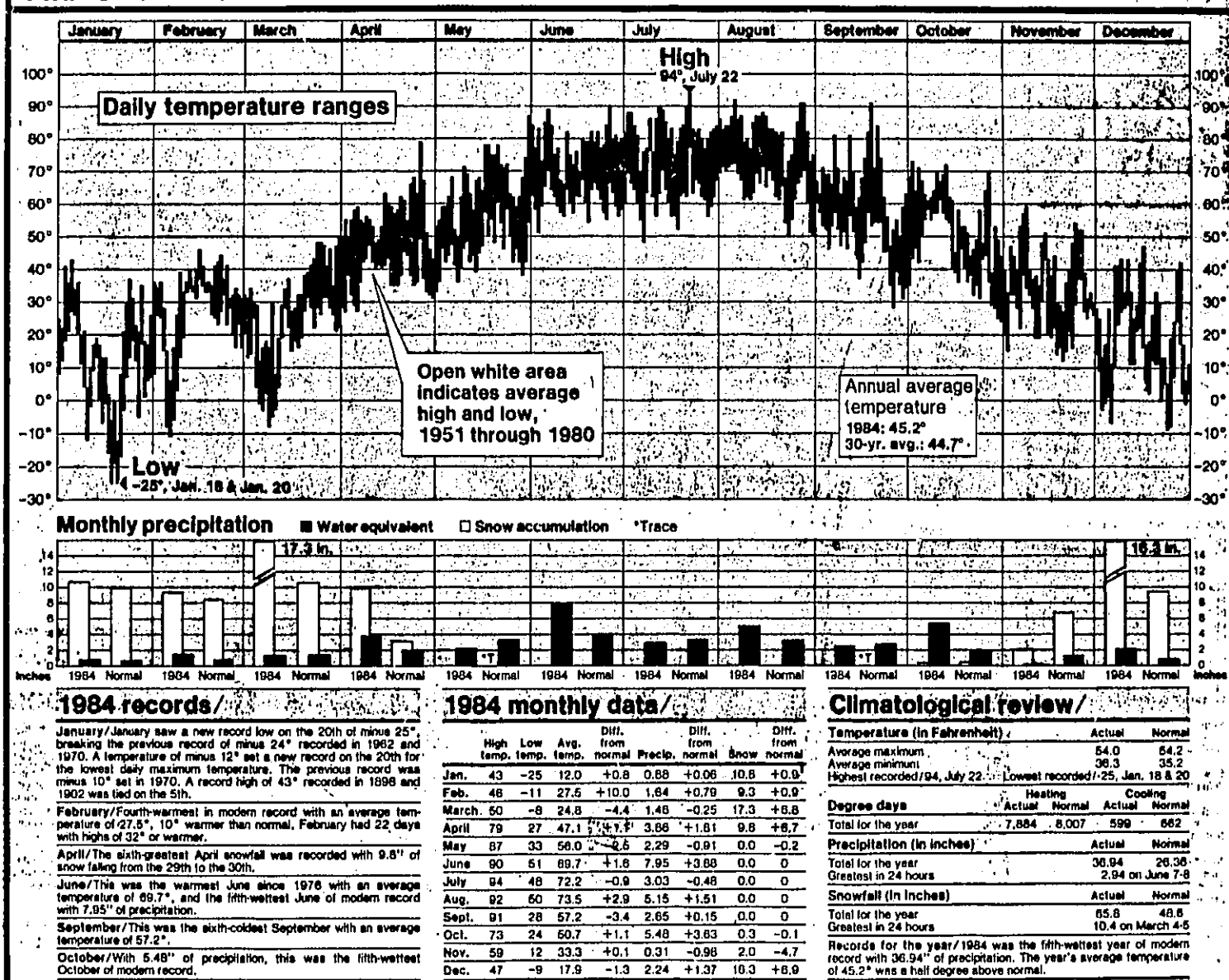


FIGURE B.1. 1984 Weather Chart

C. Land Acquisition

1. Fee Title

Although there was \$ 1,000,000 of Land and Water Conservation Funds appropriated for Minnesota Valley Refuge land acquisition in FY 1984 the funds were not available until September, 1984, after the Minnesota Valley National Wildlife Refuge Act was amended to extended the time limit for acquisition. Since then the Regional Office Realty Division has secured two purchase agreements on the Upgrala Unit and one on the Long Meadow Lake Unit. However, no vendors have been paid as of the end of the reporting period. The Realty Division is currently negotiating with several other landowners elsewhere on the refuge but only \$300,000+ remain of the \$ 1,000,000. So while the spirits of the refuge staff were raised by the new land acquisition activity it appears it will be a short spurt in the long-haul of land purchasing on this refuge.

The most significant progress in land acquisition has already been mentioned in the Highlights Section of this report. As stated in that section the refuge staff has been attempting for several years to interest the Hennepin County Park Reserve District (HCPRD) in some type of cooperative arrangement that allows the Wilkie Regional Park to be managed as part of the Minnesota Valley National Wildlife Refuge as proposed in the Refuge Master Plan and EIS. Until recently we never got past the initial discussion stage, but with the newly approved Minnesota Valley Comprehensive Plan which realigned the refuge boundary and the amendment to the Minnesota Valley Refuge Act which approved the new boundary and the arrival of a new superintendent of the HCPRD things started to move.

Within a few months, a lease agreement had been drafted and presentations made by Manager Crozier to the Scott-Hennepin County Park Advisory Board and a working committee of the HCPRD. Both groups approved the concept of a lease of the 1300 acre area by the FWS at about \$10,000 per year until the \$106,000 initial investment of HCPRD is received upon which fee title will be given to the USFWS. Since the area is valued at over \$1,200,000 and includes three of the finest marshes in the valley with new water control structures on them this is an excellent way for this unit to be added to the refuge. The full HCPRD Board must still approve the lease, but since the working committee of the district is the same as the Board we expect it to be approved early in 1985.

2. Easement

Nothing to report.

3. Other

The refuge staff and the Realty Division are continuing to add lands to the refuge by means other than the purchase of fee title or easement.

Currently there are five on-going negotiations underway. The longest standing negotiation is with the City of Bloomington over the transfer of approximately 450 acres of park land to the FWS. Within the past year there were several exchanges of information between the FWS and the city. From the FWS stand point it seems like all of the legal concerns have been taken care of, but obviously the city still has some or they wish to use the transfer as a bargaining chip in some later negotiations with the FWS. There was some casual inquiry by the city made about the FWS willingness to exchange a portion of the headquarters area for the Northwest Airlines property to the east. The city was told that we didn't see how the FWS could do that without losing the proposed visitor center site but that we would listen to any proposals presented. At the end of the year the refuge staff is still hopeful that the city will proceed with the transfer of the park land.

The agreement with the City of Carver is progressing much better. They signed the draft agreement we had forwarded to them for review so at the present time the Regional Office is getting the proper FWS approvals and land descriptions ready to return to them with the final agreement. The agreement will provide for the inclusion of city lands that are inside of the designated boundary as well as the additional lands that will be used for the cooperative development of a trailhead-entry point for the Chaska Lake Unit. In exchange for the use of the city lands the FWS will provide five parking places, informational kiosks and a short pedestrian trail onto the refuge, all proposed in the refuge Master Plan.

In Burnsville there is an agreement pending that will allow the FWS to use some Burnsville park land for a trailhead-entry point. In that same area a new cooperative agreement was developed with the Scientific Natural Area Section of Minnesota DNR to allow the FWS to use a DNR railroad crossing and a trail right-of-way across a Scientific Natural Area (SNA) as access to the south side of the Black Dog Lake Unit. The SNA is within the proposed refuge but will not need to be purchased by the FWS since all of the refuge objectives will be met through SNA management and the cooperative agreement.

Another negotiation underway with the Minnesota DNR is a general land exchange that realigns state and federal lands in the valley so that they are consistent with the State-Federal Minnesota Valley Comprehensive Plan. Basically, this involves the exchange of some river islands and adds DNR lands to the Wilkie and Louisville Swamp Units of the refuge in exchange with FWS lands in Pine County, Minnesota that DNR wishes to add to the Banning State Park. This exchange has been underway for several years and we understand it still needs to be approved by the state legislature.

D. Planning

1. Comprehensive Plan

The joint State-Federal Minnesota Valley Comprehensive Plan was completed in June, 1984 and copies distributed to the cooperating agencies. It is a plan for the management and perpetuation of the wildlife and recreational resources found in the lower Minnesota River Valley. The plan highlights the roles and guidelines for federal, state, and local involvement in this effort. The management strategies and land classifications contained within it are based upon comprehensive assessments of resources, constraints, user patterns, and social values. The plan sets the stage for a timely response to the recreational demands of the valley and proposes a direction to accommodate public needs while retaining the integrity of the wildlife and other resources in the valley as a whole.

The plan was produced in several formats. There is a very detailed 187 page version in a loose-leaf binder which was printed in limited numbers for use by the DNR and FWS. Another 3,000 bound copies (less many maps) were printed for distribution to agencies and officials that have an interest in the valley. A 16 page executive-summary with color maps and photographs (see enclosure) was printed for general public distribution as was a shorter 6 page summary. All versions have been very useful in distributing information about the refuge and adjacent recreation area.

2. Management Planning

Since many of the refuge management plans have been completed on this refuge during the last five years of intensive planning efforts the pace of management planning has declined. This year Asst. Manager Tom Larson completed a new wildlife inventory plan that utilizes the refuge's computer capability. The plan describes in detail procedures for collecting sample information for waterfowl, white-tailed deer, fur bearers, and some non-game species. This information is then used in a computer program that extrapolates sample census data to produce refuge-wide waterfowl population estimates and population index information for other species. While it may not be perfect it has eliminated much of the inconsistencies between a variety of people who collect and work-up the wildlife population numbers. Tom Larson also completed the Refuge Burn Plan which outlines in detail the burn units and the proper procedures that should be followed to conduct safe controlled burns. ORP Tom Worthington prepared the station Law Enforcement Plan which was approved by the Regional Office in February, 1984.

Refuge Manager Crozier prepared the Comprehensive Plan to resolve Threats and Conflicts and made another attempt to draft the Land Protection Plan. Working on the latter has been a frustrating experience as the earlier attempts were not approved at the Washington Office level and the guidelines seemed to be constantly changing. At the end of the reporting period the Regional Office was reformatting the last refuge version to fit the latest guidelines.

In last year's narrative we reported that several biological technicians employed under the Minnesota Emergency Employment Development Program (MEED) were working on the development of unit-wide management plans. At least four were drafted and nearly completed but no permanent staff time was made available to finish them so they remain in the same status. Since it became apparent that holistic unit-wide management plans would not eliminate the need for resource specific management plans like water and/or grassland management plans, we lost some interest in completing them although we still believe a refuge unit approach to management planning is preferred.

Annual Work Planning and other routine type planning efforts were done as needed through the year.

3. Public Participation

Public participation efforts over the past year were focused almost entirely on management of the Minnesota Valley white-tailed deer population. Over the past several years the strategy has been to alert the public to the impending problem of the rapidly increasing population and in the early part of 1984 this was continued with news releases and invitations to the news media (papers and T.V.) to cover the deer trapping and tagging efforts. There was good coverage and the local community seemed to be generally aware of the problem. We also invited interested citizens to participate as volunteers in the deer tagging operation which helped further to alert the public.

Gradually we began to present programs throughout the communities about the problem and possible solutions including a recommendation for a public hunt. A special public workshop was held in Bloomington in April to solicit public input on recommendations for reducing the herd size. This was followed with a series of public hearing sessions with the local City Advisory Commissions and City Councils. By mid-summer we were able to announce that a public hunt would be held and we proceeded on that basis. Since we needed city council approval to obtain waivers or exceptions to local firearm ordinances for a public hunt public notification and participation was critical as it is doubtful if the city councils would have granted permission for the hunt if crowds of uninformed, angry people had showed up at the Council Chambers.

As a result of that strategy there were only about five people that objected to the public hunt and they preferred to pressure the local governments rather than attempting to have the USFWS change it's position. Please refer to the listing of the public sessions in Section H of this narrative report.

4. Compliance with Environmental Mandates

Generally, the refuge EIS continues to fulfill the mandated compliance needs and except for Regional Office Criteria Statements and Environmental Action Memorandums only state and COE construction permits are required for projects in wetlands or state protected waters.

In 1984, we received a permit from the Minnesota Department of Natural Resources to rebuild the Jab's Farm Dike across the Sand Creek and replace the deteriorating concrete bridge with a new water control structure. Unfortunately, the Regional Office Engineers had to work on higher priority projects and we were unable to do anymore then contract for soil borings on that and other proposed Louisville Swamp construction projects. As it was, high water prevented even the soil testing from being done until late in the year. During the low water stage, the refuge staff was able to re-install culverts with stoplog risers and rip-rap the dike at the Jab's Farm.

It may have been providential that more work wasn't accomplished as in December Ducks Unlimited decided that they would design and contract for the construction of a new water control structure and rehabilitation of the Jab's Farm Dike so that the 300 acre lower pool on the Louisville Swamp can be managed more effectively. In anticipation of the FY1985 ARMMS program we have applied to Minnesota DNR for a permit to replace the state corridor trail bridge across Sand Creek. Although that trail crossing is temporary, it may be years before the trail can be relocated as suggested by the master plan. Therefore, it has been decided that the existing unsafe bridge should be replaced during the summer of 1985.

For several of the past years more staff time has been involved in Environmental compliance by others who have prepared EIS documents then in compliance activities of the refuge itself. There were several major proposed developments off the refuge that had large Environmental Impact Statements prepared for them. Since they all will impact the refuge the staff became involved in the review of these documents to alert the developers of the threat and conflicts with the refuge. These include the Shakopee Race Track, the Airport South Commercial District, the Flying Cloud Landfill and the Louisville Landfill. In nearly all of these projects a better refuge data base, particularly in area of water quality and hydrology would have allowed the refuge staff to prepare a better case why certain proposals should be modified to reduce the impact on the refuge. Hopefully there will be funding resulting from the threats and conflicts planning that will improve this situation.

5. Research

Nothing to report.

6. Other

Nothing to report.

E. ADMINISTRATION

1. Personnel

This has been a busy year for the refuge and the changes in the refuge staff reflect the growth and change that is occurring. Tex Hawkins, who took a leave of absence to work with the Costa Rican government on refuge master planning, enjoys the work so much that he has extended his leave until July 1985. He writes us that he finds his work there interesting and rewarding and doesn't mind too much trading snow for sun drenched seashore.

Ann Magney-Kieffaber has also departed for a warmer climate. During the last 2 years Ann has been on a leave of absence while attending Yale graduate school. After graduation Ann moved to San Francisco with her husband whose job had been relocated. She now has a job in the private sector but hopes to keep active in public and non-profit natural resources organizations.

The biological portion of the staff is undergoing a number of changes. Barb Hudak moved to Big Stone NWR in pursuit of her career goals. Mary Mitchell, Secretary, made a career change to Biological Technician in October. And Tom Larson, Assistant Refuge Manager, will soon be getting acquainted with all the Region 3 refuge employees in his new job as Assistant Regional Refuge Supervisor (RF1). His enthusiastic helpful and friendly manner will be missed by all of us, but we are confident his new job position will benefit both his long-term career goals and the goals of the Service.

The importance of the secretarial position on the refuge staff again became evident when Mary Mitchell accepted the biological position. After two months of double duty for Mary, someone was hired for the secretarial position. However, four days later, she resigned. Fortunately, Mary Ronglien, one of the other candidates, was still interested in the position and is picking up the duties of the position quickly.

Leslie Condon, Clerk-Typist, accepted a clerical position in the Regional office but will be returning to the refuge as a park technician early next year. Kate Winsor, an employee under the MEED program, took over the clerical duties after Leslie's departure. Her communication skills are exceptional and the image she has projected to the public has been a credit to the refuge.

We took advantage of a number of special hiring opportunities this year. The MEED Program, a state-sponsored employment program, has provided us with skilled individuals for laborer, park technician, and biological technician positions. The Regional Office, Refuges Division, offered the FTE's and funding for two biological aids at the end of the fiscal year. The two employees had prior experience and therefore were able to collect HEP data and complete the wood duck

banding project independently. We also utilized the YCC and Student Conservation Association (SCA) programs. Both the YCC crew and the SCA summer work camp accomplished some much needed habitat rehabilitation and trail maintenance projects. The refuge also welcomed Jennifer Coon to the Fish and Wildlife Service. She started as a Student Trainee (Biology) in July and has become involved in a variety of biological, recreational, and administrative projects at the refuge.

Although not technically part of the refuge staff, we welcomed Jan Eldridge, Assistant Regional Wildlife Biologist, to the refuge. She will be stationed here along with Steve Wilds, the new Regional Wildlife Biologist. Jan has already given us an idea of the valuable information we will have access to by having her and Steve here and we welcome them both.

This year has brought about a number of staff changes and has seen many new faces come and go on the refuge. Each new person has brought with him/her fresh and innovative ideas and a willingness to participate in all refuge activities. As a result, we accomplished many projects that otherwise may not have been done and had the pleasure of working with a number of interesting individuals.

Listed below are those employees who are or have been with Minnesota Valley NWR during 1984.

Refuge Personnel

<u>Permanent Full Time</u>	<u>Grade</u>	<u>Eod Date</u>	<u>Departure Date</u>
1. Crozier, Edward S. Refuge Manager	GM-13	03/11/79	
2. Hawkins, Arthur S., JR. Outdoor Recreation Spec.	GS-12	10/01/78	LWOP NTE 07/05/85
3. Larson, Thomas J. Asst. Refuge Mgr., W/L	GS-11	12/31/81	
4. Worthington, Thomas C. Outdoor Recreation Planner	GS-11	05/01/83	
5. Magney-Kieffaber, Ann Outdoor Recreation Planner	GS-9	08/20/79	09/01/84
6. Moyer, Edward R. Outdoor Recreation Planner	GS-7	11/14/82	
7. Hudak, Barbara J. Refuge Manager Trainee	GS-7	01/09/83	04/01/84
8. Mitchell, Mary S. Biological Technician	GS-5	10/01/84	

9. Babbini, Anna M. Secretary	GS-4	12/10/84	12/14/84
10. Ronglien, Mary H. Secretary	GS-5	12/24/84	
11. Irrthum, Paul F. Maintenance Worker	WG-8	03/23/80	

<u>Temporary Appt.</u>	<u>Grade</u>	<u>EOD Date</u>	<u>Departure Date</u>
12. Luger, James D. Landscape Architect (2-yr. term appt.)	GS-9	11/27/83	
13. Condon, Leslie A. Clerk-typist (1-yr. appt.)	GS-3	09/12/83	08/31/84
14. Reed, Tracy L Biological Aid	GS-4	06/11/84	08/17/84
15. Murphy, Michael Biological Aid	GS-4	06/25/84	07/24/84
16. Michaels, Ellen Biological Aid	GS-3	07/30/84	10/15/84
17. Pape, Kevin Biological Aid	GS-3	07/30/84	10/15/84
18. Kittelson, Steven Laborer	WG-2	04/16/84	10/19/84
19. Gelvin, Lisa A. YCC Crew Leader	GS-4	06/11/84	08/17/84

<u>Student Trainee/Coop</u>	<u>Grade</u>	<u>EOD Date</u>	<u>Departure Date</u>
20. Coon, Jennifer L. Student Trainee (Biology)	GS-2	07/09/84	09/15/84(LWOP) 12/10/84 (RTD)

YCC

21. Anderson, Barry C.	06/18/84	08/07/84
22. Drawert, Julie M.	06/18/84	08/14/84
23. Menning, Joseph P.	06/18/84	08/10/84
24. Samountry, Viengsavan	06/18/84	08/14/84
25. Weiter, Wendy M.	06/18/84	08/14/84

Minnesota Emergency Employment Dvlpt. Program (MEED)

26. Cummins, Clyde; Bio. Tech.	11/28/83	04/20/84
27. Hasbarger, Ronald; Laborer	11/01/83	04/10/84
28. Irrthum, Dan; Laborer	11/01/83	04/27/84
29. Murphy, Michael; Bio. Tech.	11/28/83	05/21/84
30. Olson, Dan; Laborer	09/17/84	12/20/84
31. Urbanski, Katy; Park Tech.	11/28/83	05/18/84
32. Winsor, Kate; Park Tech.	07/02/84	12/24/84
33. Widner, Marise, Land. Arch.	05/07/84	06/29/84

Student Conservation Association

College Resource Assistant

34. Mueller, Connie; Bio. Tec.	12/27/83	03/10/84
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High School Work Camp

35. Cervinski, Chris; Work Leader	06/21/84	07/10/84
36. Baker, Jordan; Volunteer	06/26/84	07/13/84
37. Consolini, Marcus; Volunteer	06/26/84	07/13/84
38. Eisenman, Ben; Volunteer	06/26/84	07/13/84
39. Haines, Phillip; Volunteer	06/26/84	07/13/84
40. Jarmolowicz, Betsey; Volunteer	06/20/84	07/08/84
41. Kiely, Jennifer; Volunteer	06/26/84	07/13/84

Student Internship

42. Kay Neuman, Biological Aid	04/06/84	05/18/84
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The refuge staff. Back row: 6. 3. 10. 12. 11
Front row: 1. 8. 13. 4. (MNV #A)



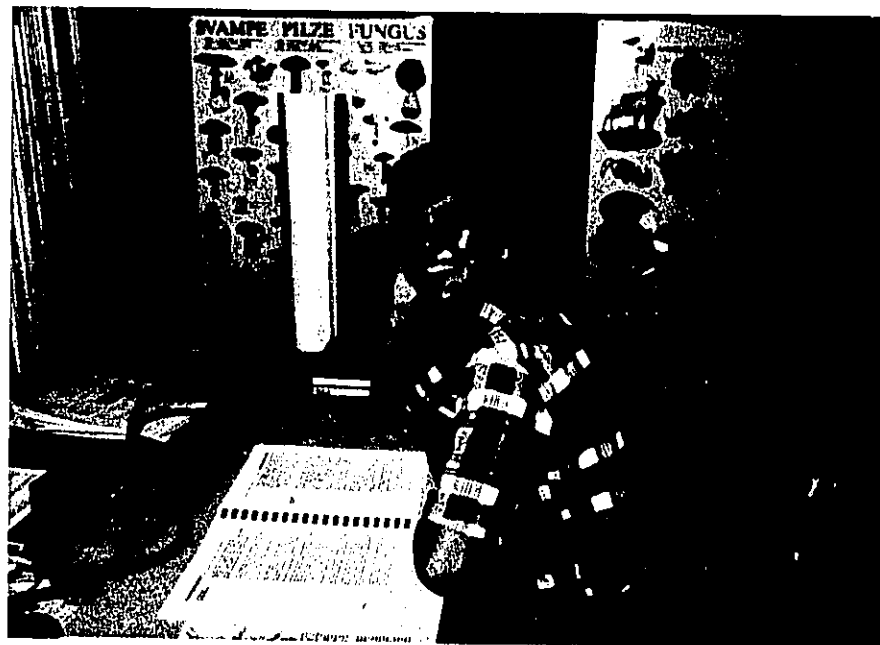
14. Biological Aid Tracy Reed (MNV #5744)



16. Biological Aid Ellen Michaels (MNV #5953)



YCC Crew and Crew Leader. Back Row: 23. 21. 24.
Front Row: 19. 25. 22. (MNV # 5741)



32. Kate Winsor, Park Technician (MEED) (MNV #5742)



33. Marise Widner, Landscape Architect (MEED)
(MNV #5591)



30. Dan Olson, Laborer (MEED) (MNV #6050)



SCA Work Camp. Back Row: 40. 35. 36. 41.
Front Row: 39. 37. 38. (MNV #5748)



42. Kay Neuman, Student Intern (MNV # 5490)

2. Youth Programs

Minnesota Valley held it's third Youth Conservation Corps (YCC) program in 1984. Lisa A. Gelvin, a Wildlife Mgmt. student at the University of Wisconsin-Stevens Point, was hired as a Social Service Aid supervisor for our five enrollee crew. Julie Drawert, Wendy Weier, Joe Menning, Vieng Samountry, and Barry Anderson were selected at random from a pool of sixty applicants.

Projects:

In the Headquarters Area, the enrollees constructed mouse-proof seed storage room, split and piled firewood, repaired a wooden block sidewalk by the office, posted signs, washed vehicles, built approximately 75 yards of post and rail fence to protect a prairie restoration area, and painted sign posts and part of a storage shed.

Wood beam curbing was laid for the upper and lower parking kiosk facilities at the Bass Ponds Environmental Study Area. Litter removal became a weekly activity there. Later the enrollees cleared the Marsh Blind boardwalk of flood debris and camouflaged the blind with cattails.

Shovel and wheelbarrow work helped repair flood-caused subsidence at the Black Dog Lake overlook. The enrollees painted fence, gates, a two panel kiosk, trimmed brush along approximately 1000' of maintenance road.

At Louisville Swamp, enrollees painted sign posts and gates, reinforced the Middle Road with riprap, cleared culverts and water control structures, and performed trail maintenance on the Mazomani Loop.

All enrollees received training in First Aid and CPR. Some constructed wood duck traps and then helped band a couple of ducks! Others worked on deer exclosures and were given a thorough introduction to the research objectives for these structures by Assistant Manager Tom Larson. They helped polish the interpretation of a self-guided trail at the Bass Ponds with frank discussion and constructive criticism. Rather than formal sessions, Environmental Awareness was an opportunistic grabbing of unique moments.

This year's YCC Program began with a flood of increasingly sophisticated forms requiring twice the time to complete and contributing to more than 80 hours in hidden administrative costs. It also demanded additional supervision. One enrollee had to be terminated due to poor performance. Yet our YCC crew logged 1455 hours of work with an estimated savings to the government of \$1667.65. The true value of this program is still the personal growth and spirit developed when youth are challenged with hard work and responsibility.

In contrast to the the YCC Program, the Twin Cities Tree Trust made few demands on refuge staff or budget. The Tree Trust is a Summer Youth Employment Program (SYEP) funded by Hennepin County. It's youth

workers are paid minimum wage. 1984 was the second year Minnesota Valley has had this program.

Three adult leaders supervised 20 participants on the refuge. They concentrated at the Bass Ponds Environmental Study Area and worked on boardwalk repairs, rip-rap stabilization near water control structures, trail maintenance, and painting for three weeks.

The Tree Trust is a good program for routine labor intensive projects. By supplying materials and technical advice when needed, we receive free labor while many of it's youth are challenged to develop a work ethic for the first time in their lives.

3. Other Manpower Programs

The refuge continued to benefit from the Minnesota Emergency Employment Development Act (MEED) in 1984. MEED is a state funded program established to provide employment to persons who are unemployed and/or whose unemployment benefits have expired. The state pays MEED workers \$4.00 per hour for six months. All that is required of the refuge is to provide meaningful, supervised work and to perform basic administrative time/payroll data collection.

We were very fortunate to have seven MEED workers during the year (see Section E-1). The projects they were involved with included:

Biological: Deer population studies, browse studies, track surveys. Completed unit management plans for Black Dog Lake, Long Meadow Lake, Louisville Swamp Units. Helped prepare a Wildlife Inventory Plan. Habitat Evaluation Procedure (HEP) data was also collected on several refuge units.

Public Use: Assisted volunteer management, interpretive programs and tours, sign development, slide show development, environmental education material preparation, and public use reporting data collection.

Maintenance: Assisted with all aspects of refuge maintenance and construction projects including kiosk, posts and rail, and trailhead construction, trail clearing, snow removal and facility maintenance.

Office Mgmt.: Typing, filing, responding to inquiries, computer data entry, and other office chores.

Minnesota Valley was also involved with the Student Conservation Association (SCA) in 1984.

For three months Connie Mueller, a senior in wildlife management at Utah State University worked at the refuge as a biological technician under the SCA's Resource Assistant Program. Connie received no pay other than a small stipend to cover living expenses (\$25/week), and travel money to/from Utah. She worked primarily on our deer population/habitat studies and prepared computer programs using

Multi-Plan to process and perform statistical analysis of our wildlife inventories.

Connie was an outstanding worker, and later obtained temporary employment with the Service at Cassville District of Upper Miss. Refuge.

We also hosted a three week long SCA High School Work Camp during the summer. Chris Cervinski was hired by the SCA to be the work leader/camp director; six youths aged 14-16 volunteered for this camping/working program.

The group set up camp on DNR State Trail land adjacent to the refuge's Louisville Swamp Unit. They worked on a variety of projects, but, because of the extended flooding they were not able to accomplish some of the more pressing projects we had planned for them.

Some of the projects they did accomplish included: fence removal, trail trimming and maintenance, sign repair, and clean up around the historic Jab's Farm site.

Of the two SCA programs, we benefitted more from the College Resource Assistant program than from the High School Work Group. We will continue to utilize the former and will probably not become involved again with the latter.

4. Volunteer Program

Volunteers remained very active in all phases of refuge operations in 1984. A total of 1,595 hours of volunteer time was reported by 102 volunteers in the following activities:

Wildlife Management

- Surveyed and recorded bird life along established transects.
- Surveyed and recorded wildflower growth along established transects.
- Assisted with deer studies, including trapping, tagging and browse surveys.
- Assisted with transplanting of native prairie flowers.

Public Use

- Assisted with volunteer program management.
- Monitored hiking and skiing trails.
- Presented interpretive programs about the refuge to civic groups.
- Led interpretive hikes.
- Helped conduct the Young Waterfowler Program.

Office Management

- Performed data entry into computer.
- Assisted with filing, map production, and copying.
- Assisted with hunter permit processing.
- Maintained reference library.

General Maintenance

- Mowed grass around shop and headquarters.
- Performed light groundskeeping duties.

A volunteer appreciation dinner was held again in May. Approximately 25 volunteers attended the outside pot luck dinner.

One example of how a strong volunteer network pays off was demonstrated in September when it was discovered that a small grassland, close to the Regional Office, filled with flowering prairie forbs was slated for imminent clearing for construction. Our regular wildflower project volunteers were contacted as were members of a local Audubon Chapter "Plant Rescue Team". Nineteen individuals spent a Saturday transplanting a total of 436 specimens of 24 species including gray headed conflowers, butterfly weed and two species of blazing star.

The plants were placed in an area near the refuge headquarters which was recently seeded with native grasses and forbs. While some plants died immediately from the shock of transplanting, most appeared to have survived.

The volunteer program as a whole did seem to lose some steam this year as refuge staff time was increasingly diverted to other projects and as some of our volunteer coordinators showed signs of "volunteer burn out". Slight restructuring of the coordinating responsibilities are being made in 1985 which we hope will re-vitalize this important and valuable refuge resource.

5. Funding

Funds available to Minnesota Valley NWR during FY 1984 are as follows:

	<u>1260</u>	<u>Job Orders</u>	<u>Total</u>
09/21/83 Original FY84 AWP	\$436,000	\$0.00	436,000
02/10/84 AWP Amendment #1	379,000	\$57,000	436,000
03/27/84 AWP Amendment #2	383,000	\$57,000	440,000
04/27/84 AWP Amendment #3	363,000	\$77,000	440,000
08/23/84 AWP Amendment #4	367,000	\$77,000	444,000
09/06/84 AWP Amendment #5	370,400	\$77,000	447,400

Rehabilitation and Construction Job Orders

Blackdog Trailhead Construction	\$20,000
Louisville Swamp Development	22,000
Long Meadow Lake Habitat Development	15,000
Long Meadow Lake I & R	30,000
	<u>\$87,000</u>

YCC Funding (\$8,675)

YCC Enrollee Salaries	5360
Staff Salaries	2382
Supplies	742
	<u>\$8484</u>

The refuge FY84 budget went through a few manipulations this year. In February the refuge O & M monies were decreased by \$57,000 to establish three of the four job orders. A number of revisions involving moving costs, salary savings and YCC resulted in a net increase in O & M funding of \$4,000 in March. Another \$20,000 was taken from O & M monies in April to increase funding to job orders. In August, the refuge was given an additional \$4,000 in O & M monies to hire two temporary Biological Aids. The final revision again increased refuge O & M funding by \$3,400. At the end of the fiscal year, it was discovered the amendments to the AWP accounted for only \$77,000 of the \$87,000 that existed for job orders. We graciously accepted the gift.

Operations and Maintenance funding for FY84 was spent as follows:

Office

Supplies and Equipment	\$16,789	
Imprest	1,935	
Transportation (GSA Rental)	7,072	
Computer Equip. and Service	<u>5,508</u>	
		\$31,304

Personnel

Salaries	\$239,798	
Uniforms	1,300	
Travel (Obj C1 2137)	7,044	
Other Travel	3,443	
Training	967	
Cash Awards	2,200	
Coop. Agreements	<u>42,000</u>	
		\$296,742

Utilities

Oil	\$2,262	
Gas and Diesel Fuel	1,027	
Electricity	1,323	
Telephone	2,066	
Water and Sewer	<u>292</u>	
		\$6,970

I & R

Signs	\$1,450	
Photographs	1,493	
Brochures	<u>2,446</u>	
		\$5,389

Operations

Vehicle Repair	\$ 2,879	
Maintenance (contract)	3,622	
Shop Improvements	1,000	
Minor Maintenance (routine)	22,000	
Building Security	<u>484</u>	
		\$29,985

6. Safety

Monthly safety meetings were held and attended by all available staff in the refuge:

January	-Ice Safety and Ice Hazards
February	-CPR Multi-Media Course-All staff certified
April	-Fire extinguishers and how to use them
May	-Back strengthening exercises and proper lifting techniques
June	-Driver Safety
July	-Simulated accidents and how staff should respond
August	-Standard first aid Multi-Media Course-all staff certified
September	-Film on rabies, driver safety
October	-Safe use of ATC was demonstrated and practiced by staff
November	-Review of station safety record and driver safety film

Leslie Condon and Tom Worthington completed instructors training with the American Red Cross and became certified instructors for CPR (Condon) and Standard First Aid (Worthington). Consequently we were able to schedule training in both topics for the entire staff and YCC at convenient times. Worthington also traveled to Sherburne NWR and conducted a first aid training for their YCC crew.

No major lost time accidents were recorded in 1984. Three minor injuries were sustained by employees involved in our deer trapping efforts.

01/05/84 Leslie Condon's hand was cut and scraped while holding a netted deer on the ground. She had neglected to wear her gloves.

01/23/84 Connie Mueller bruised her hand when it was struck by a sledge hammer. She was holding a rocket net support post which was being driven into the ground by a co-worker when the sledge slipped and glanced off her hand. She was wearing heavy work gloves and had only minor bruises.

01/23/84 Mike Murphy was holding a netted deer on the ground when the deer lurched and jammed his finger into the ground. He was wearing heavy work gloves and had only a minor sprain.

Sadly, one death did occur on the refuge in October when a 91 year old man wandered away from the Valley View Nursing Home and onto the Louisville Swamp Unit, a 1/2 mile distance. The Scott County Sheriff's office conducted both ground and air searches but it was four days after he was reported missing before an archery hunter found the man's body. The man died of natural causes.

7. Technical Assistance

The following technical assistance was provided:

FWS computer software for the Apple Computer was copied for the Regional Office to send to Alaska.

Participated in discussions with the Corps of Engineers and the Lower Minnesota Watershed District regarding dredge spoil sites.

Assisted the Refuge division/supervisor with landscape/site plans for the refuges in the region as well as with suggested layouts for the refuge division supervisor office area.

Provided input to the City of Carver regarding boat ramp development and other developments adjacent to the Chaska Unit.

Served as acting Division 1 Refuge Supervisor.

Assisted the City of Chanhassen in wetland typing for a proposed local housing development.

Assisted an instructor at the University of Minnesota in developing projects for a Landscape Architecture class.

The Refuge landscape architect was on detail to the Regional Office for three months. He worked on a number of site plans and developments at Seney, Necedah, Upper Mississippi, and Horicon Refuges.

ORP Worthington assisted Seney NWR and Signshop with a A-76 conversion to contract proposals.

ORP Worthington assisted RFl with I & R operational inspections of Upper Mississippi Refuge.

8. Other Items

Awards

In keeping with the holiday season, five achievement awards were presented to staff members in December. Tom Larson, Assistant Refuge Manager (W/L), received a \$600.00 award for his research of the refuge deer population, providing the necessary information to implement a metro deer management program in cooperation with local and state governments. A \$400.00 award was presented to Tom Worthington, ORP,

for implementing the first combination shotgun and bow deer hunt on the refuge. The hunt required a large effort to coordinate the hunt with local and state agencies. Paul Irrthum, Maintenance Worker, is the individual responsible for actually "building the refuge" with his own hands and was rewarded for his efforts with a \$400.00 award. Jim Luger, Landscape Architect, has been able to complete an unusual number of construction designs in a creative and timely manner, even though he has only been with the Service for a year. Mary Mitchell, Bioloical Technician, has explored and utilized many of the different computer options available to the refuge, including accessing the refuge GIS database and developing programs in the DATABUS programming language.

Training

All permanent staff as well as some temporary help benefitted from training opportunities this year. Fifty percent of the training was provided by the Service, with the remaining being provided by state (23%) and private (27%) organizations.

<u>Attendee</u>	<u>Course Title</u>	<u>Training Source</u>	<u>Dates Attended</u>
Kate Winsor MEED Park Tech	Polish Your Performance	State	8/16-17/84
Leslie Condon Clerk-Typist	10th Annual Federal Women's Day	FWS	3/30/84
	In Search of Excellence	Private	7/31/84
	Red Cross CPR Instructor's Trng.	Private	01/15/84
Ed Crozier Refuge Manager	Law Enforcement Refresher	FWS	3/26-30/84
	Basic Supervisor II	Private	11/01/84
	How to Work With People	Private	12/04/84
	How to Negotiate With People	Private	12/04/84
Barb Hudak Refuge Manager Trainee	CPR Refresher	Private	01/04/84
	Police Training	Private	01/10-03/12/84
	Law Enforcement Refresher	FWS	04/02-06/84

	Basic Refuge Mgmt. Training	FWS	04/11-05/06/84
Paul Irrthum Maintenance	Regl. Pesticide Applicator Wrkshop	State	01/20/84
	Pesticide Applicator's Aquatic Workshop	State	02/13/84
Thomas Larson Asst. Refuge Manager	Adv. Refuge Mgmt. Training	FWS	03/12-03/30/84
	Regl. Pesticide Appl. Workshop	State	01/25/84
	Pesticide Appl. Aquatic Workshop	State	02/13/84
	Law Enforcement Refresher	FWS	02/13/84
Mary Mitchell Bio. Tech.	10th Annual Federal Women's Day	FWS	03/30/84
	In Search of Excellence	Private	07/31/84
	Small Purchase Training (Correspondence)	Private	12/84
	HEP/HSI Software	FWS	12/03-05/84
James Lugar Landscape Architect	Fire Training	FWS	04/17-18/84
Edward Moyer ORP	Law Enforcement Refresher	FWS	04/02-06/84
	Polish Your Performance	State	08/16-17/84
Tom Wortington Senior ORP	Law Enforcement Refresher	FWS	03/26-30/84
	Implementing A-76	FWS	04/02-06/84
	American Red Cross First Aid Trng.	Private	02/15/84

Computer Use

The use of computers at the refuge has become part of our daily routine. Many on the staff are now familiar with the use of IEOS (word processing) and Multiplan (accounting spreadsheets) and both systems have significantly increased the efficiency and accuracy of written documentation and handling correspondence.

Mary Mitchell, Bio. Tech., has become more familiar with the use of the Tektronics equipment to access the refuge G.I.S. database housed at Minnesota's Land Management Information Center. Maps generated from the system were used in the development of the Blackdog Unit Management Plan and in the execution of two "mini-MEP's." Plans for the future include field checking and updating the database and developing a set of field maps for each of the refuge units.

The following programs are currently in use or in the process of development at the refuge.

Daily Log. In use now for two years, this program has proved invaluable in writing the monthly activity reports and the annual narrative. The program keeps track of the daily activities of the refuge staff and can be sorted and listed according to the operator's needs.

Budget Spreadsheets. A system of linked worksheets developed in Multiplan, this system allows the refuge staff to track real and projected expenditures. In use for the third fiscal year, the worksheets have been updated and expanded to track minimum operation costs and small and large ARMS project costs.

Mailing Address Files. An IEOS library, MAIL, is used to keep a current mailing list of local interest groups, media contacts, corporations, educators, etc. Used with the autotype function of IEOS, we can run off labels and personalized letters and notices quickly and accurately. The availability of this IEOS function made it possible for us to mail over 1,000 copies of the refuge Gifts Catalog to individuals and about 200 to leading metro corporations without interrupting the normal flow of refuge operations.

Biological Spreadsheets. Multiplan has also been used to develop worksheets for recording aerial counts, browse transect data, and waterfowl inventories and making the necessary calculations.

Biological Programs. KILLDEER, a program which calculates the distance of deer/car collision cases from the nearest refuge boundary and records pertinent data for each case on disc, has been completed. Deer/car collision records from 1974 through 1982 have been entered in the computer. Analysis of the available records will be done using Systemaker, a database management system designed to manipulate Databus files.

Systemaker will also be used to access, update, and analyze bird transect information collected by volunteers since 1981. Although the original records were entered in the computer using a Databus program,

Systemaker will be used to access these files in the future because of its powerful file handling functions. Wildflower transect information collected by volunteers in the past two years will also be accessed and analyzed using Systemaker.

Permits Issued

Permit No.	Date Issued	Permittee	Purpose	Amount	Period of Use
36	03/07/84	Metro Airport Commission	Airboat Trng. on Black Dog Lake for Airport Disaster Readiness Effort.	N/C	3/24-4/1/84
37	03/22/84	J. Grudnoske	Pump water from Round Lake for private lawn & garden.	\$10.00	7/1-9/15/84
38	03/29/84	MMCD	Mosquito Habitat Eval./Ctrl.	N/C	4/1-9/15/84
39	06/07/84	MMCD	Mosquito Control on LML	N/C	6/7-8/84
40	06/21/84	Dr. J Cooper	Live trap/band Canada Geese	N/C	6/1/84
41	06/26/84	D. Woodward	Seismic Testing @ Round Lake	N/C	6/30-7/15/84
41a	07/23/84	MN Renaissance Festival	Provide overflow parking area	\$200.00	8/18-9/30/84
42	07/24/84	Railroad Co. (A. Wilson,Rep)	Burning of railroad ties abandoned on refuge	N/C	7/25-8/3/84
43	08/15/84	Minnegasco Co.	Gas pipeline maintenance	N/C	8/20-9/30/84
44	09/19/84	R. Smith	To keep & maintain bluebird trail at Louisville Unit	N/C	9/20/84-85
45	09/21/84	J. Fahrenkamp	Remove wild hay & control brush	\$210.00	9/1-30/84

F. Habitat Management

1. General

Late flooding took its toll on the habitat management program for the second year in a row. Burning was restricted and cooperative farming was prevented completely.



The scene at the east end of Black Dog Lake indicates the peak of the flood waters which hampered refuge habitat management activities (MNV #5716).

Habitat data was gathered to utilize the habitat evaluation procedure (HEP) in making management decisions. We have selected 25 species of mammals, birds, reptiles, and amphibians to serve as indicators in 10 major habitat types. Some data remains to be gathered from aerial photos and maps before the procedure can be implemented. Computer software exists or is being developed by the Western Energy Land Use Team (WELUT) which will make the processing of the data possible at a field station using a micro computer.

The HEP procedure will give us quantitative measures of the effects on our indicator species of the management actions we are proposing. This objective, multi-species consideration of management alternatives, will be a positive step in modern scientific wildlife management.

2. Wetlands

High water from two spring floods of the Minnesota River affected wetland vegetation. The last flood waters did not recede until

mid-July, stressing or causing some mortality among the wetland vegetation communities. River levels on June 29th were the second highest since the record flooding in 1969. Many areas of cattails were severely stressed as was the wild rice on Rice Lake (Wilkie/Rice Lake Unit).

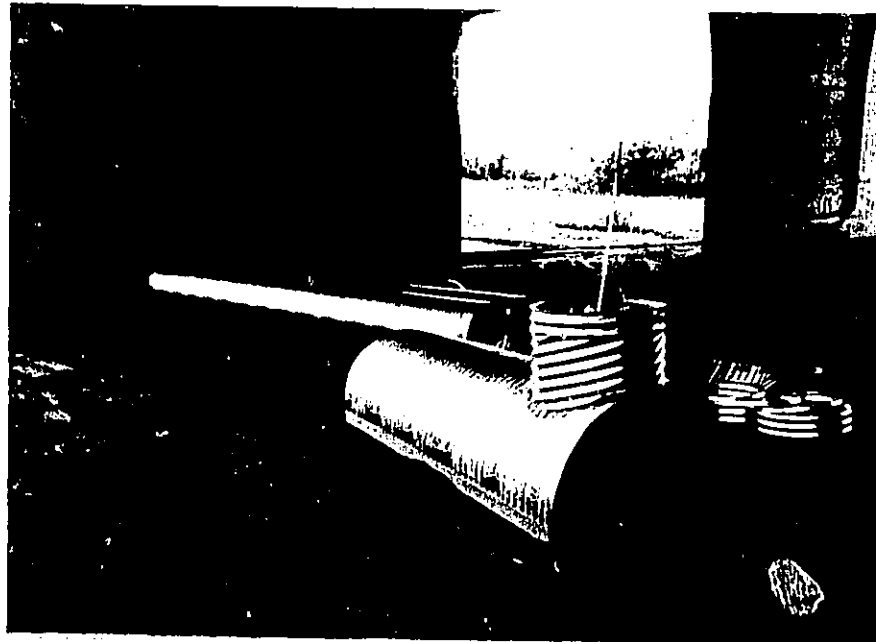
A steel liner was installed in the east Bass Pond stop-log structure on the Long Meadow Unit. This was done to prevent seepage and the partial washout that had occurred on the west Bass Pond structure the year before. The structures were originally constructed with 6"X 6" treated timbers.

The Bloomington Stadium storm sewer work in the vicinity of the Bass Ponds was completed during the summer. A concrete water control structure was installed between the gravel pit and Long Meadow Lake. Another structure was installed between the gravel pit and the Hogback Marsh. The dike between these two wetlands was raised considerably so that at high water there is still approximately 4 feet of dike above the water. The water diversion pipe to the Hogback Marsh was replaced. It was not functioning prior to this. Finally, the original outlet from the Hogback Marsh was improved when a partially collapsed outlet pipe was replaced. This work was part of a mitigation package the refuge required from the City of Bloomington for running the storm sewer into the former gravel pit area. The storm sewer is supposed to only carry peak flows during a 100 year flood situation. The City of Bloomington claims the mitigation added \$250,000 to the project costs. However, the city administrators now seem to be very proud of the entire project.

The storm sewer related improvements have allowed us to maintain good water levels in the Hogback Marsh with the hope of opening up some of the dense cattails. There was significant use of the marsh by feeding wood ducks in September.

The installation of water control structures on the Black Dog Lake Unit as part of a trail development project was thwarted by wet conditions due to high water. A washout along the trail also delayed the project while we waited for the Metropolitan Sewer District to repair it. The trail is being built on their sewer line. There are several wetlands impounded behind the sewer line that we hoped to gain better control over with the installation of the stop-log water control structures.

The I-494 moist soil unit on the Long Meadow Lake Unit was completed. The 6 acre moist soil unit was constructed by the construction company doing the work on the nearby Interstate 494 highway. They needed a site to deposit fill and we needed a dike around the moist soil unit. The company also supplied and installed a stop-log water control structure for draining the area. We do not have a pump yet to fill the unit so it may be some time before we can actually utilize it.



Jim Luger inspecting the water control structure and dike which was provided by the Shaffer Construction Company to establish the I-494 moist soil unit (MNV #6012).

A 5-bay stop-log water control structure was installed on the Louisville Swamp Unit Jab's Farm dike. It will provide a safer creek crossing for the public. It will also improve our water management capability on 300 acres of the Louisville Swamp once a structure is installed in place of the old Sand Creek bridge.

3. Forests

Nothing to Report.

4. Cropland

No crops were planted this year due to flooding. The Minnesota River flooded a second time this spring in late June, with the flood waters not receding from the cropland areas until mid-July. By then it was too late to get any crops in.

5. Grasslands

Plans to seed down up to 75 acres of former cropland to native grass were delayed due to the late spring flooding. Native grasses and forbs were seeded on the 5 acre headquarters site. The work was done under contract by Prairie Restorations Inc. using locally grown native grasses and forbs. The only exception to this was the Pierre Side Oats (Boutelous certipedula) and South Dakota Common Blue Grama (B. graciles). These species are not available locally. A short grass mix was used on the drier south facing slopes and a tall grass mix was used elsewhere. The mixes included the following species:

Short Mix

Species	Qty/Ac.
Little bluestem (<u>Andropogon scoparius</u>)	5 lbs.PLS
Side oats grama (<u>Bouteloua curtipendula</u>)	5 lbs.PLS
Blue grama grass (<u>Bouteloua gracilis</u>)	5 lbs.PLS
Big bluestem (<u>Andropogon gerardi</u>)	1 lb.PLS
Indian grass (<u>Sorghastrum nutans</u>)	1 lb.PLS
Leadplant (<u>Amorpha canescens</u>)	1 oz.Bulk
Butterfly weed (<u>Asclepias tuberosa</u>)	2 oz.Bulk
Stiff sunflower (<u>Helianthus laetiflorus</u>)	1 oz.Bulk
Bluets (<u>Houstonia longifolia</u>)	2 oz.Bulk
June grass (<u>Koeleria cristata</u>)	1 oz.Bulk
Rough blazing star (<u>Liatris aspera</u>)	1 oz.Bulk
Dotted blazing star (<u>Liatris punctata</u>)	1 oz.Bulk
Wild bergamot (<u>Monarda fistulosa</u>)	1 oz.Bulk
Large-flowered penstemon (<u>Penstemon grandifl.</u>)	1 oz.Bulk
Prairie clovers (<u>Petalostemum sp.</u>)	3 oz.Bulk
Black-eyed susan (<u>Rudbeckia hirta</u>)	1 oz.Bulk

Tall Mix

Species	Qty/Ac.
Big bluestem (<u>Andropogon gerardi</u>)	4 lbs.PLS
Indian grass (<u>Sorghastrum nutans</u>)	3 lbs.PLS
Little bluestem (<u>Andropogon scoparius</u>)	2 lbs.PLS
Side oats grama (<u>Bouteloua curtipendula</u>)	3 lbs.PLS
Blue grama grass (<u>Bouteloua gracilis</u>)	3 lbs.PLS
Giant hyssop (<u>Agastache foeniculum</u>)	1 oz.Bulk
Leadplant (<u>Amorpha canescens</u>)	1 oz.Bulk
Butterfly weed (<u>Asclepias tuberosa</u>)	1 oz.Bulk
Stiff Sunflower (<u>Helianthus laetiflorus</u>)	1 oz.Bulk
Common ox-eye (<u>Heliopsis helianthoides</u>)	2 oz.Bulk
Rough blazing star (<u>Liatris aspera</u>)	1 oz.Bulk
Wild bergamot (<u>Monarda fistulosa</u>)	1 oz.Bulk
Prairie clovers (<u>Petalostemum sp.</u>)	4 oz.Bulk
Yellow coneflower (<u>Ratibida pinnata</u>)	1 oz.Bulk
Black-eyed susan (<u>Rudbeckia hirta</u>)	2 oz.Bulk

Cover crop:

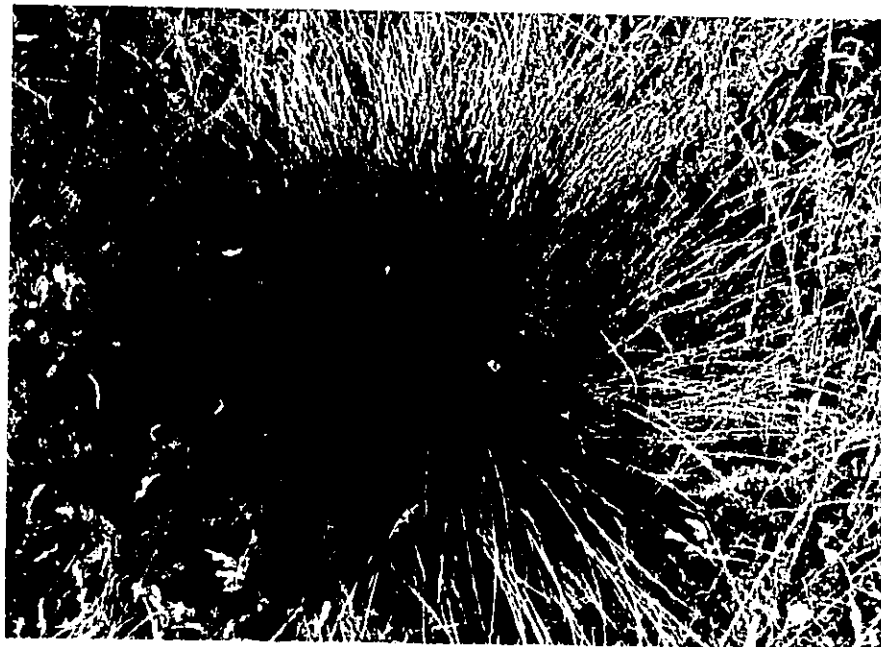
A cover crop of rye was incorporated onto the site.
This was applied at the rate of 1 bushel per acre.

The cover crop was required especially for protecting the slope areas from erosion.

A small area of remnant native prairie was discovered adjacent to the FWS Regional Office. The area was going to be destroyed by construction. Ed Moyer of the refuge staff organized and directed a salvage operation in which volunteers dug and transplanted native forbs to the recently seeded refuge headquarters area. The activity received positive media coverage.

Two of the tall and intermediate wheatgrass seedings on Long Meadow Lake Unit received a setback with the late flooding. They had come back beautifully after an April 7th burn and had grown to about one foot tall when the late spring flood hit. The flooding appeared to kill the lower ground seedings. The areas may have to be reseeded in 1985.

Based upon the experience we have had the past two years with flooding, it appears that we may be wasting our time seeding many sections of the flood plain to native warm season grasses such as big bluestem, Indian grass or switchgrass. We need to use flood tolerant species such as cordgrass (*Spartina pectinata*). However, we have not been able to locate a seed source for cordgrass and have not been able to harvest the seed locally ourselves due to flooding. We observed that on some of these lower fields, cordgrass will begin to invade on its own if the area is left untouched for a couple of seasons. The best way to establish permanent nesting cover in the valley may be to allow natural succession to occur and keep it moving in the direction of native grasses through the use of prescribed burning.



The best way to establish nesting cover in flood prone areas of the valley may be to discontinue other sources of disturbance and allow flood tolerant species like cordgrass to reinvade the areas (MNV #366).

6. Other Habitats

The small white ladyslippers were observed blooming on the Black Dog calcareous fen on May 28th.

7. Grazing

Nothing to report.

8. Haying

A total of 14 acres were hayed on the Louisville Swamp Unit (field # 24) this year. Other areas that were to be hayed on the Louisville Unit and Chaska Lake Unit could not be harvested due to wet conditions.

9. Fire Management

A total of eleven out of the nineteen proposed burn units were burned. Those that were not burned could not be reached during the prescribed burning period due to high water conditions. Of the 707 acres proposed for burning, 413 acres were burned. It appears that to burn some of the units, we must begin using fall burns when conditions are drier. We will lose some wildlife cover over winter but it will probably give us better brush control which is becoming a major problem on many of the bottomland grasslands. The average cost per acre of our burns this year ranged from \$ 4.74 per acre on a larger burn unit to \$ 49.65 per acre on a small burn unit. Overall cost per acre for all burns combined was \$ 6.38.



One of the more successful burns on the Louisville Swamp Unit was conducted to control brush invasion into river bottom grasslands (MNV #5658).

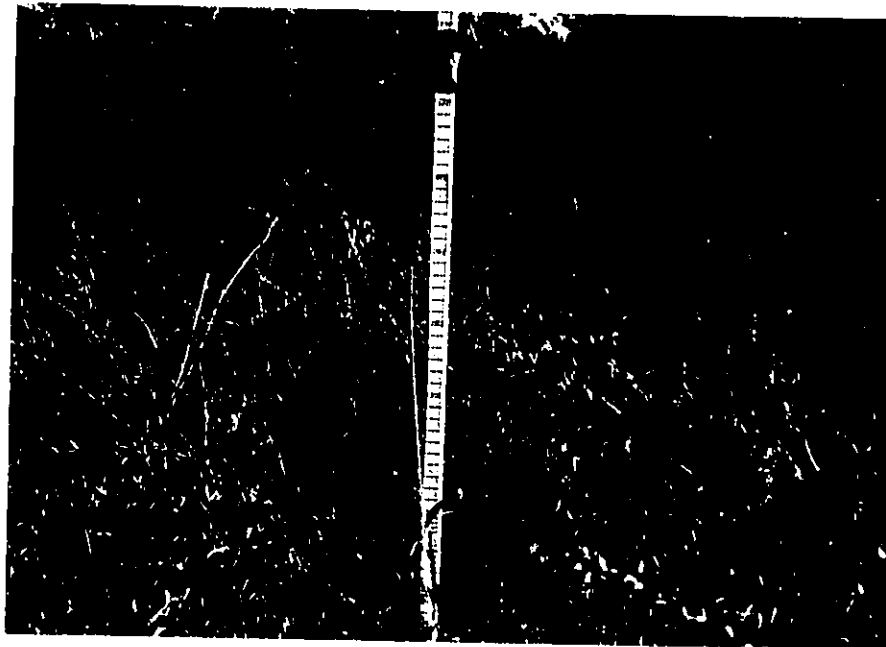


Purple Loosestrife continues to threaten refuge wetlands, especially in the Long Meadow and Blackdog Lakes area (MNV #361).

10. Pest Control

Approximately one acre of purple loosestrife (*Lythrum salicaria*) was treated with Rodeo herbicide. A backpack sprayer with a three nozzle boom (spray width 60 inches) was used to apply the herbicide. A cooperative arrangement was worked out with the Monsanto Company, manufacturers of Rodeo, where they supplied 5 gallons of Rodeo and the necessary surfactant (Ortho X-77).

We established 12 test plots, six used for an application of 3 different broadcast and percent solution rates in early September and six used for applications 2 weeks later. The percent solutions used were: .75%, 1%, and 1.5%. The broadcast rates were 4 pts./ac., 5 pt./ac., and 6 pts./ac. Prior to spraying, the percent cover of loosestrife on each plot was measured and photos were taken of each plot. Each plot was 10 feet wide by 50 feet long. The initial spraying of six plots on September 5, appeared to be very effective. The other six plots were sprayed on September 21. All plots will be re-examined in 1985 to see which percent solution and broadcast rate was most effective.



Twelve test plots were established for testing the use of Rodeo in the control of Purple Loosestrife (MNV #5968).

The loosestrife also seemed to be affected by the late spring flooding. Many plants appeared to flower late or not at all.

An attempt was made to burn the east Bass Pond on September 22nd but failed. The humidity and green vegetation did not favor a burn. The hope was to burn the marsh which is heavily infested with loosestrife and then reflood it. There is some indication in the literature that this may have some control value with loosestrife.

11. Water Rights

Nothing to report.

12. Wilderness and Special Areas

Nothing to report.

13. WPA Easement Monitoring

Nothing to report.

G. Wildlife

1. Wildlife Diversity

Each year the staff is newly impressed with the wildlife diversity of the area. At first glance, the refuge seems quite ordinary and somewhat subdued by the urbanization around it. However, upon closer inspection and discovery of specialized habitats like the Black Dog fen and prairie, it surprises us by producing some unexpected wildlife species.

The refuge Wildlife Inventory Plan was submitted to the Regional Office for approval in March. It utilizes our computers extensively for summarizing collected inventory data.

2. Endangered and Threatened Species

Bald eagles were reported or rumored to be in the refuge area several times this year. Reported sightings included the following:

<u>Date</u>	<u>Age</u>	<u>Location</u>
09/29/84	Immature	On Bluff along Bass Ponds
11/01-14/84	Adult	Near Cedar Ave.
11/14/84	Adult	In Ft. Snelling S.P. near the Mendota Bridge
11/01-14/84	Immature	8901 River Ridge Rd.
11/17/84	Adult	On Blick estate (S. of Cedar Springs Area-S. Side B.D. Lake)

A dead immature bald eagle was obtained from a refuge cooperative farmer on the Upgrala Unit. The bird was found dead at the base of a power transformer several miles from the refuge.

A golden eagle was sighted near Cedar Ave. sometime between Nov. 1st and 14th. Another possible sighting of a golden eagle south of the refuge maintenance building was reported on August 17th.

A cougar was reported on the Black Dog Lake Refuge Unit (south side) on Nov. 18th by an archery hunter. He swore it was a mountain lion. Approximately 2 weeks earlier another person had reported seeing a mountain lion crossing the road on the east edge of the Black Dog Unit. A strange coincidence of sightings but the presence of cougars on Black Dog is yet to be confirmed.

3. Waterfowl

The new refuge waterfowl inventory procedure was implemented in March of this year. The numbers of birds observed at 19 different observation points are entered onto a pre-formatted Multiplan spread

sheet on the refuge Datapoint computer. The computer then calculates the estimated populations using preprogrammed expansion factors that vary with the month and water levels.

The major flooding which persisted to almost mid-July was similar to what happened in 1983. The high water eliminated most of the upland nesting waterfowl production. It was estimated that only about 35 mallards and 20 blue-winged teal were produced; Canada geese managed to produce about 55 young. The high water seemed to favor wood ducks which produced an estimated 838 young.

Peak waterfowl populations are listed by month in Figure G.1. Peak waterfowl populations were reached in May and again in September. The May estimate of 4,700 birds and the September estimate of 16,163 waterfowl was dominated by blue-winged teal in both cases. Coot members peaked in October when it was estimated that 54,670 coot were on the refuge.

Species observed on the refuge included coot, Canada geese, mallards, gadwall, pintail, green-winged teal, blue-winged teal, American widgeon, shoveler, wood duck, redhead, lesser scaup, ruddy duck, common goldeneye, Barrow's goldeneye, and common merganser. January and February populations of common goldeneye and mallards that normally occurred near the Black Dog power plant were low. The cold weather combined with the plant apparently not running many generators resulted in much of the lake freezing over. A lone Barrow's goldeneye was reported on Black Dog.

The population peaks during the waterfowl migration period indicate the value of the refuge as a migration stopover. The large spring fed floodplain wetlands evidently are very attractive to the birds. Future moist soil unit development and water control structure construction will improve the area even more for the migrating waterfowl. The combination of sizeable waterfowl populations, good habitat, active wildlife management and an adjacent human population of 2,000,000 have created an ideal opportunity for the highest quality environmental education. A large segment of the public now have an opportunity to learn firsthand about modern wildlife management.

FIGURE G.1

1984 WATERFOWL INVENTORY
ESTIMATED PEAK POPULATIONS BY MONTH

ESTIMATED PEAK POPULATIONS BY MONTH																TOTAL All Spec.	TOTAL Excl. Coot	
MONTH	Coot	Mall	Gad	Pint	GWT	BWT	Widg	SPECIES Shovel Woodie LScaup			Ruddy	CGold	BGold	Redhd	CGoose	CMerg		
Jan															1		1	1
Feb												200					200	200
Mar		70									140					90	300	300
Apr	180	300	4			40			12	1000							1536	1356
May	19900	1190				3320									180	22	24612	4712
June	350	175							80						540		1145	795
July	340	510				60			1310						895		3115	2775
Aug	180	2620				140			7290					50	460		10740	10560
Sept	29380	6020			60	6600	860	50	1560		13				1000		45543	16163
Oct	54670	3510	50	710		450	2890	215	1380						25		63900	9230
Nov	2290	950	1840	180						200				20	90		5570	3280
Dec		360										1				35	396	396
TOT:	107290	15705	1894	890	60	10610	3750	265	11632	1200	153	201	1	70	3190	147	157058	49768

4. Marsh and Water Birds

There is a diversity of marsh and waterbirds that pass through or are found in the river valley. Notable sightings this year include:

<u>Date</u>	<u>Species</u>	<u>Location</u>
03/29/84	Red-necked Grebe	Black Dog Lake
04/03/84	Red-breasted Mergansers (approx. 200)	Black Dog Lake
04/08/84	Common Loon	Black Dog Lake
05/26/84	Anhinga	Louisville Swamp
09/08/84	Western Grebe	Black Dog Lake
12/14/84	Common Mergansers (approx. 28)	Black Dog Lake

5. Shorebirds, Gulls, Terns, and Allied Species

This was a good year for shorebird feeding with the flooding and gradual drop of water levels. All species commonly sighted in the valley (see refuge bird list) were present. A Short-Billed Dowitcher was found dead at Black Dog Lake on June 27th. The cause of death was not known.

6. Raptors

A Saw-whet Owl was observed near the Black Dog Power plant on Jan. 22nd. An Osprey was observed at Long Meadow Lake on Sept. 25th.

The Hennepin County Park Reserve District began an Osprey reintroduction program this year. Hacking towers were constructed on the Carver Park and 8 birds were raised to flight. The young birds were brought in from other parts of Minnesota. It is likely that if some of these birds become established in the area that they will become regular users of the refuge units.

7. Other Migratory Birds

The following noteworthy migratory bird sightings were made on the refuge this year. A Lapland longspur was sighted on the Louisville Swamp Unit on April 1st. On the Black Dog Unit, there were rare sightings of a dickcissel (06/05), yellow-breasted chat (06/10), and Bell's vireo (06/10) were made, a testimony to this area's natural diversity and its popularity with local birders. Six white pelicans were also sighted on Black Dog Lake on October 22nd.



Blackdog Lake provides refuge visitors with a variety of bird life to observe throughout the year (MNV #5815).

This year, Ed Moyer, ORP, worked to remove and relocate bluebird houses on the Louisville Swamp Unit. Two local residents had constructed and placed the bluebird houses before the refuge was established and it took some persuasive skills on Ed's part to modify their bluebird house project. As a result, a few houses were relocated to more inconspicuous locations, and many were completely removed.

8. Game Mammals

The main activity related to mammals continues to revolve around the white-tailed deer population on the refuge. The population continues to rise especially on Long Meadow Lake and Black Dog Units (Figure G.2). Densities have been rising steadily the past several years and have reached a point where starvation is a possibility. Studies conducted on the refuge have documented this problem and the results were used this year to convince local communities that a hunt was needed to reduce the population (see Section H-8).

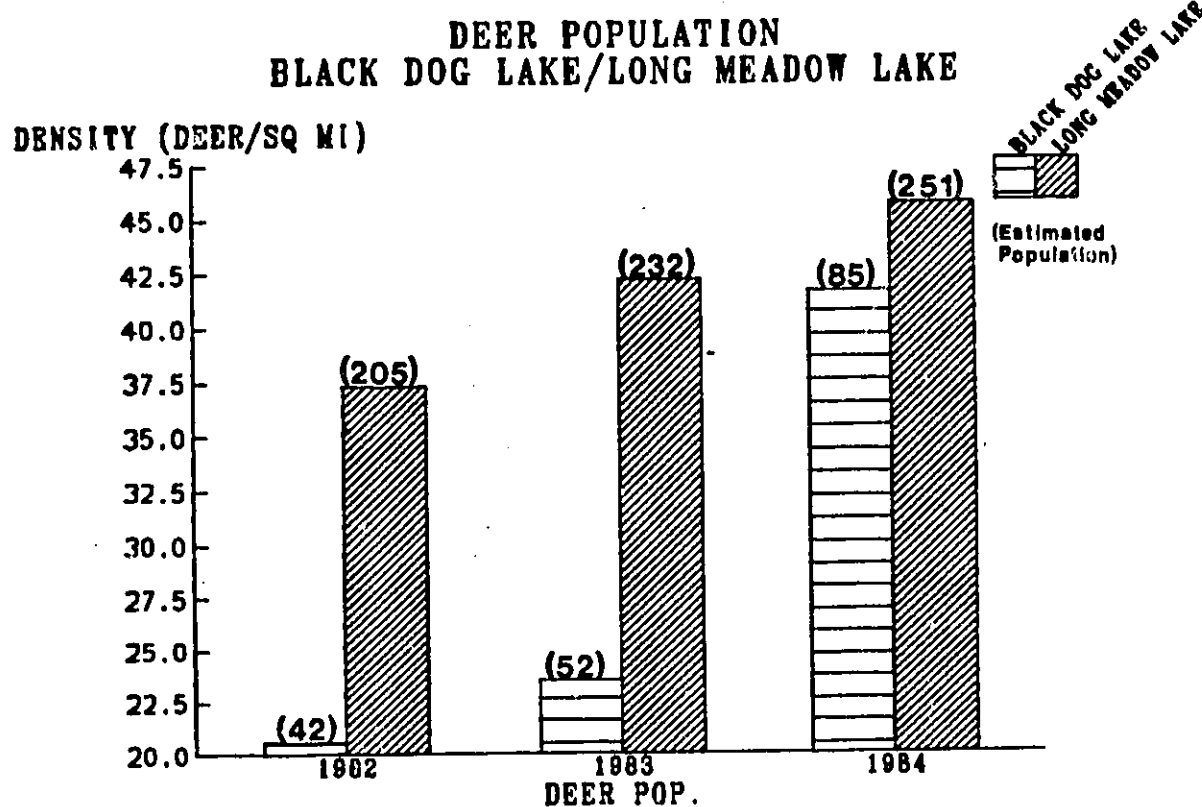
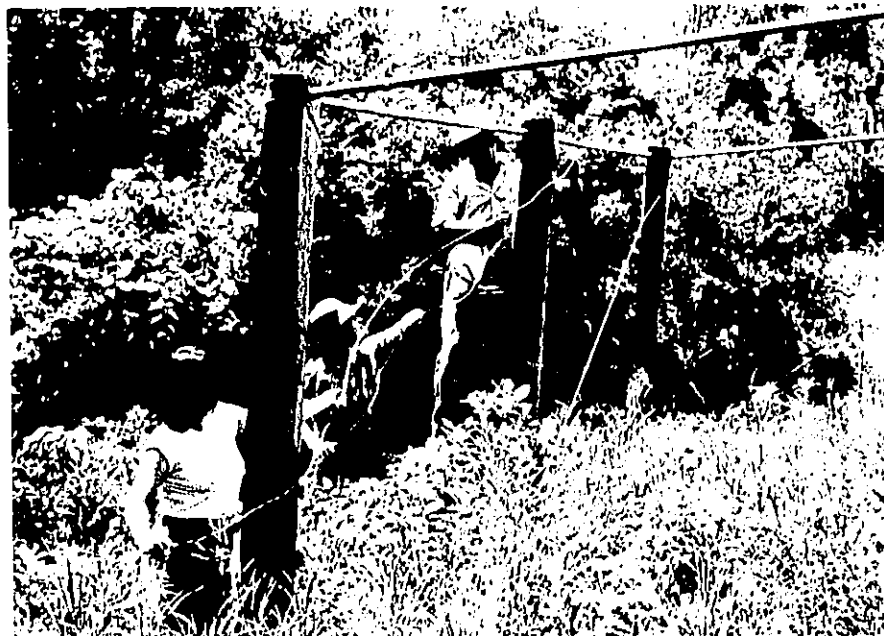


Figure G.2. Estimated Deer Population, 1982-1984.

In an effort to document long term changes in the vegetation due to browsing, 3 deer exclosures were constructed. A University of Minnesota student working towards his masters degree is gathering baseline data on the exclosures and control plots. These will be valuable in the future to demonstrate to the public, the effect deer are having on the vegetation. Browse surveys, trail counts, aerial counts, tagging, and a dead deer search were also conducted. The data proved very beneficial when we presented our hunt request to local city councils. We have established some good credibility regarding deer management in the area.



Deer exclosures were constructed at the refuge headquarters, Bass Ponds and Bloomington Ferry to determine the affect of deer browsing on forest habitats (MNV #5795).

Deer live-trapping and marking was again conducted on the refuge in an effort to learn something of seasonal movements and mortality factors of the refuge deer herd. A total of 45 deer were marked this year compared to 22 in 1983. The deep snow and cold weather this year made the bait much more attractive to the deer than in 1983. The majority of known deer mortality has come from deer/car collisions (Figure G.3). Bucks have traveled an average of 5.3 miles from the trap site (excluding deer #32 which moved 50 miles into Wisconsin and was considered an exceptional move) (Figure G.4). Does averaged 2.0 miles. We are still having problems getting people to report sightings to us. To date we have not seen any of the deer that have been reported outside the refuge return the following year. Either deer actually are not coming back or we just aren't getting sightings of deer that have returned reported to us. The movement information is important if we are to manage the deer herd with a hunt, since we need to know when the deer are in the area to schedule the most effective hunt.

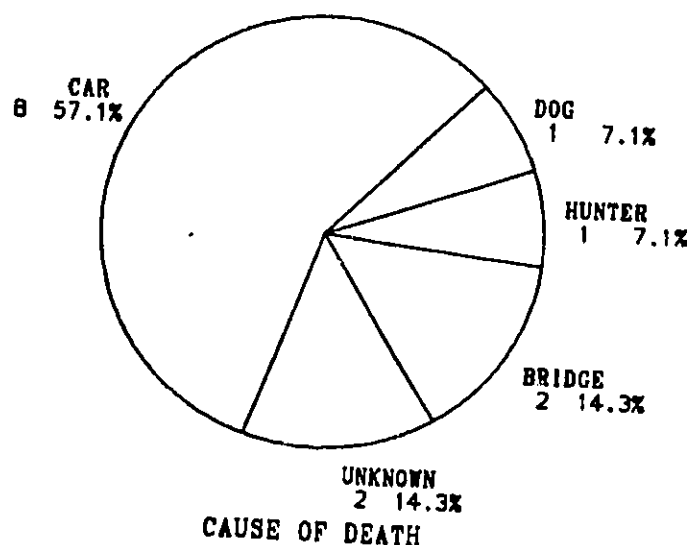


Figure G.3. Tagged Deer Mortality Factors.

DISTANCE DEER TRAVELED FROM TRAP SITE			
AVERAGE (MILES)			
	1983	1984	COMBINED
ALL DEER	7.2	2.3	4.9
ALL EXCEPT #32	4.5	---	3.5
DOES	2.1	1.8	2.0
BUCKS	13.2	2.8	8.0
BUCKS EXC. #32	7.9	---	5.3
RANGE (MILES) 0.5-50.4		0.25-4.75	0.25-50.4

Figure G.4. Tagged Deer Travel Distances From Tagging Site.

In cooperation with the Minnesota Department of Natural Resources, we were able to have aerial deer surveys completed with a fixed wing aircraft and a helicopter. Based upon 3 years of data, we have calculated correction factors for estimating numbers when working in a moderately open deciduous forest. We assume that 75% of the deer present are observed when a count is made by helicopter. If a fixed-winged aircraft is used, we multiply the count by 1.51 if snow cover is excellent to get an equivalent helicopter count. When snow cover is less than 100% (but most ground is still covered) we multiply the fixed-wing count by 1.87 to equal the helicopter count. Since we attempt to do a complete count of the entire refuge, we then take the actual helicopter count or the adjusted fixed-wing count and divide by .75 (the 75% observed estimate) to arrive at the population estimate for the refuge.

Having convinced the local communities that the deer herd must be managed and occasionally reduced, we will reduce our efforts in some aspects of the deer study. However, periodic aerial counts and browse survey work will continue to help in management of the herd. The presence of a surrounding urban population that does not always understand the hows or whys of wildlife management requires that management practices we do undertake be well documented and very defensible. We have avoided potential problems in the past by informing the public of what we are doing and why and will continue to in the future. People accepted the idea of a deer hunt much more readily than expected. Constant exposure through newspaper, radio and TV over the past 3 years kept the public informed of the increasing population and the need for a reduction program.

Another game mammal, the muskrat, does not appear to be fairing as well as the deer herd. Muskrat populations appear to suffer once again from the late spring flooding. Muskrat houses were destroyed and it is likely that most bank dens were flooded out.



Jon Parker, Minnesota DNR Area Game Manager, collecting information at the deer check station at refuge headquarters. T.V. cameramen like the one in the background of this photo, were as common as deer during the hunt (MNV #6054).

9. Marine Mammals

Nothing to report.

10. Other Resident Wildlife

Minnesota Valley participated in the annual scent post survey conducted by the Minnesota DNR for the first time this year. Each route consisted of ten scent stations, spaced at 0.3 mile intervals along a 2.7 mile roadway. The scent station is a three foot diameter circle of sifted soil with a scent disc in the center. The stations were left overnight and checked for tracks the next day. The survey was conducted September 5-11, 1984 on Louisville Swamp, Upgrala, and Long Meadow Lake units. Three routes were completed with a total of 21 visits by five species. Dog was the most frequent visitor at seven stations, followed by raccoon (5), deer (4), squirrel (4), and gray fox (1). The scent post survey provides data to document predator and other furbearer population trends.

A female badger (Taxidea taxus) constructed a den between two of the shop buildings this summer and two young were observed at the den entrance in late June. The badger and her young abandoned the den in the latter part of July. An albino white-tailed jackrabbit (Lepus townsendii) was sighted near the Air Force Shooting Range located northeast of the refuge headquarters on 07/03/84. A cougar sighting on the Black Dog Lake Unit was reported by an archery hunter on 11/18/84 (Further discussion of this sighting appears on Section G-2).

11. Fisheries Research

Fisheries Biologist, Hannibal Bolton conducted a fish survey at the Bass Ponds again this year using gill and fyke nets.

Muskies Inc., a private non-profit company, stocked one of the pools in the Bass Ponds EE area with 3,400 musky fingerlings. On October 6th, 785 muskies were removed as part of a restocking program for a 22% success rate.

12. Wildlife Propagation and Stocking

Nothing to report.

13. Surplus Animal Disposal

Nothing to report.

14. Scientific Collections

Nothing to report.

15. Animal Control

Nothing to report.

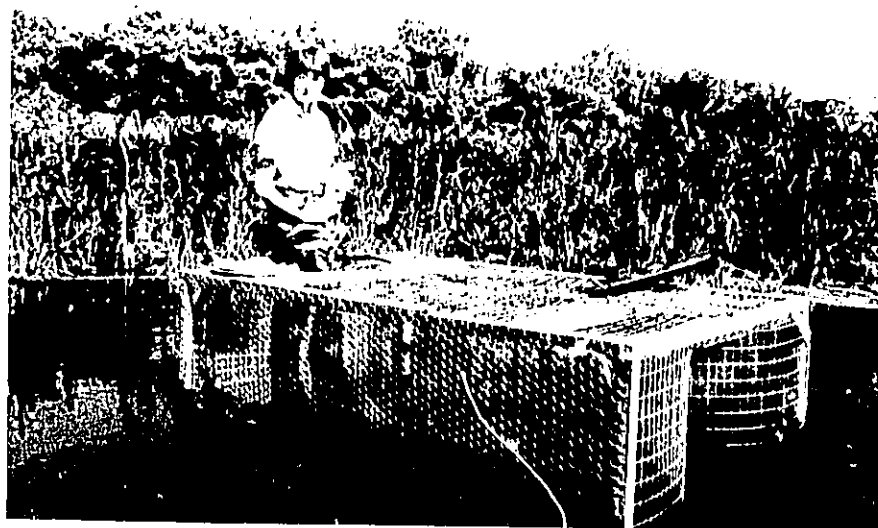
16. Marking and Banding

A. Wood Duck Banding Project

In response to one of the Refuge Manager's performance standards and a desire to begin an activity that may eventually involve the public, the refuge conducted a Wood Duck trapping and banding project this year from June 11-September 21. Since this was the first year, much of the effort was experimental and consequently costly. Swim-in traps and floating walk-in traps were used on a total of 18 different trapping sites. Twelve were on the Long Meadow Lake Unit of the refuge and five were in different parts of Bloomington: 4 on Nine Mile Creek and 1 at Marsh Lake. Wood Ducks were also captured at Kennedy High School but no trap was used there. All traps were baited with corn and wheat daily and left open overnight. They were closed on weekends. Traps were moved whenever necessary (i.e. when Wood Duck populations dropped in the area). The total number of trap days was 264 and a total number of Wood Ducks captured in traps and banded was 31.

Later in the season (Oct. 5-12) birds were captured with a rocket net. The rocket netting site was on Brown's Lake at Lawrence Wayside of the Minnesota Valley State Trail in Jordan. The area was mowed and baited with corn and wheat. Two attempts at rocket netting were made in the evening and two in the early morning. A total of 54 Wood Ducks were captured and banded by this method. In all, 85 Wood Ducks were banded by the Minnesota Valley National Wildlife Refuge in 1984.

The Wood Duck trapping and banding project at the refuge was based on a given quota of 100 birds. The quota asked for 25 adult males, 25 adult females, 25 hatching year males, and 25 hatching year females. Because of the late netting dates, those birds caught in the rocket net did not count towards the banding quota. Therefore, only 31 of the Wood Ducks trapped were used to fill our banding quota giving the project a 31% success rate.



Swim-in traps and floating walk-in traps were tested at a total of 18 different trap sites (MNV #5937).



Biological Aid Ellen Michaels released a Wood Duck captured with a rocket net at Brown's Lake (MNV #5943).

Figure G.5 gives the sex/age breakdown of all the Wood Ducks trapped. If the relative proportions of sex/age groups remains the same in future wood duck trapping efforts, we will need to trap approximately 150 ducks to meet the sex/age banding quota.

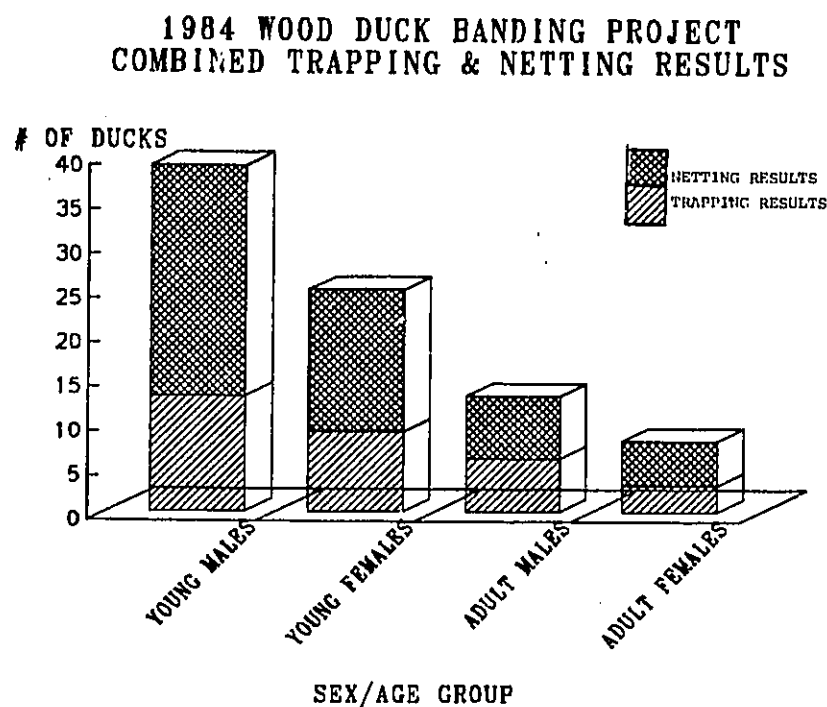


Figure G.5. Sex/Age Group Breakdown of 1984 Banded Wood Ducks.

B. Canada Geese Banding Project

Dr. James Cooper, Professor, W/L Dept., U of MN, is conducting a Canada geese banding project in the Twin Cities area using colored and numbered neck bands. Canada geese feeding in and around the Minneapolis Int'l. Airport are causing some concerns for possible safety hazards to air traffic. The purpose of the project is to determine what daily flight patterns the geese are using in and around the airport and what type of seasonal fluctuations in use may occur.

On June 26th, members of the refuge staff participated in a geese banding effort at the Bass Ponds gravel pit. Two adults and 3 young Canada geese were captured using a drive net and banded. Only the adults were fitted with neck collars. Refuge personnel will be participating in future banding and monitoring projects.



The gravel bar in the Bass Ponds area provided an excellent Canada geese drive net site (MNV #5754).

C. Deer Tagging Project

A deer trapping and tagging project was run again this year. One other effort was made in 1983. A full discussion of the tagging results can be found in Section G-8.

17. Disease Prevention and Control

Raccoons are becoming more numerous in the Twin Cities area resulting in an increasing number of complaints concerning nuisance raccoons. The City of Bloomington attempted to change their trapping ordinance to allow raccoon trapping, however, strong public opposition defeated the proposal (see Article G.1., "We have 'Raccoon Politics'", Bloomington Sun). Although the trapping proposal was defeated, the controversy did initiate a public awareness campaign to alert Bloomington residents to ways of preventing raccoon problems (see Article G.2, "Anti-trapping Committee wages 'Raccoon-proofing' Campaign", Bloomington Current).

The public awareness program will help ease the raccoon nuisance problem, however, unless it is rigidly adhered to by all residents, it will probably not cause a significant reduction in the raccoon population. Also, the incidence of raccoon predation on nesting waterfowl may increase as alternative food sources decrease. Therefore, in the future, raccoon population reduction efforts may be warranted.

We have 'Raccoon Politics'

One of the strange twists in Bloomington affairs has been what we might call "Raccoon Politics." Once again, a Council decision was challenged by a one-issue group which gathered the necessary signatures and held a gun to the Council's head -- either rescind the leg-trapping of raccoons or face a referendum on the issue.

The Council had no choice but to back away from its decision to allow the use of leg-hold traps in the Minnesota River valley.

Why did Ronnie Thomasberg and Sue Pettit's forces come after the City Council on the Raccoon trapping issue?

Some will say that it's the media's fault. If the media hadn't played it up, it would have gone away. That's a standard politician's response when some unknown like a Sue Pettit emerges in the community. Blame it on the media.

Others will say that Sue Pettit is positioning her self to run for the City Council, and since partisan interest in local elections has been abandoned, the way has been cleared for petty citizens' jump for office based on issues, and, of course, publicity.

Still others will say that there's unrest at the grass roots and we'll see more "Raccoon Politics" in 1984.

There may be those who believe that no one on the City Council plays the role of the devil's advocate since the Council is such a friendly bunch,

Don Heinzman



but that wasn't the case with the raccoons. The Council was clearly split on the matter and had advocates on both sides of the trapping question.

The Council has to wonder just where the people are these days. Members see very little opposition to the big decisions -- the fight for a World Trade Center, the Foreign Trade Zone, the strategic planning to the stadium site and the spectacular continued growth along the "strip."

In fact, the mayor and council members look so good, no one wanted to oppose them in the recent elections. Yet out of the grassroots, the people defeated the tax levy referendum, forced the Council to change the ordinance on banning cars at night during snowstorms and now the raccoons.

And just why is there so much concern over the trapping of raccoons in the river valley?

As one person suggests, no one likes to see an animal suffering... trying to pull its little leg out of a trap.

We'd like to suggest that there's also a lot of human suffering in Bloomington to which more people could pay attention. Some people are hungry and some people need shelter.

There are bigger issues that raccoon trapping. How can we as a community deal with the human misery caused by dope peddlers? What can we do about the lax enforcement of selling liquor to minors and allowing kids to party in hotels? That's a different kind of violence.

Maybe Sue Pettit and Ronnie Thomasberg are feeling the frustration of a lot of us. We can't do much about the terrorism in Lebanon, and the big defense buildup, and even where the World Trade Center will be located. But thanks to our system, and particularly the fluid suburban political system, we can do something about the leg-hold trapping of raccoons.

There's a lot of clout in "Raccoon politics." Let's hope it's used wisely.

BLOOMINGTON SUN
12/20/83

ARTICLE G.1. "We have 'Raccoon Politics'", Bloomington Sun.

Anti-trapping committee wages 'Raccoon Proofing' campaign

A public awareness campaign is underway in Bloomington to make residents aware of how they can "raccoon proof" their premises.

The public awareness campaign is a cooperative effort between the Bloomington Committee to Prevent Trapping and the City of Bloomington designed to educate homeowners about effective, low-cost and simple ways to prevent raccoons from becoming a nuisance.

The campaign includes posters, trash can stickers, water bill inserts, Bungy cords, live trapping and a booth at the Bloomington Summer Fete.

Several hundred posters have been printed by the city depicting ways to secure garbage cans, to keep raccoons out of window wells and chimneys and to remind residents of the city ordinance prohibiting the feeding of raccoons.

The posters were distributed to businesses during June for display.

The city also printed 1,000 stickers reminding the homeowner to secure trash can lids with a Bungy cord. The stickers were mailed at the expense of the committee along with an informational insert printed by

the committee to homeowners in portions of the city where there have been raccoon complaints in the past.

An insert for inclusion with city water bills was designed by the committee to provide information about simple ways to "raccoon proof" and to remind homeowners of the feeding ban. The inserts are being mailed with the current cycle of water billings to homeowners and businesses in the city.

The Bungy cord is a simple device to keep raccoons out of trash cans. The Friends of Animals and Their Environment (FATE) organization donated 50 Bungy cords to the animal wardens for distribution to city residents upon request, and at no charge.

FATE will continue to supply

the Bungy cords as the need arises. Residents are urged to obtain them from the animal wardens or at their local hardware store.

The current city trapping ordinance permits the live trapping of nuisance raccoons on private property. At the direction of the Bloomington City Council, the city has compiled a list of trappers for residents who request their services.

The Bloomington Committee to Prevent Trapping and the FATE organization will have a booth at the Summer Fete to provide information on preventing raccoon nuisances and to distribute Bungy cords and literature to those who visit the booth.

Sally Morton and Sue Pettit are members of the committee.

BLOOMINGTON CURRENT
07/23/84

ARTICLE G.2. "Anti-trapping committee wages 'Raccoon Proofing' campaign", Bloomington Current.

H. Public Use

1. General

Progress was made this year in several areas of public use development. As with most aspects of Minnesota Valley Refuge management the I&R program is very dependent on the cooperation of others. Very few public use improvements can be made without the direct involvement of at least one or more levels of local and state governments.

Perhaps no project better illustrates the importance of cooperation than the Black Dog Lake trail and trailhead project which is now under construction.

Leased from the Northern States Power Co. is the 1200 acre Black Dog Lake Unit through which we plan on putting a wildlife observation hiking and cross-country skiing trail. Unfortunately the trail is isolated from any good public access by a railroad, steep bluffs, and private land.

After a year of negotiations, meetings, and sheets of site plans we are finally working out cooperative agreements to: use a Metropolitan Transportation Commission Park & Ride parking lot and City of Burnsville recreation land for a trailhead, place a trail across a Chicago and Northwestern Railroad track onto a Minnesota Department of Natural Resources Scientific and Natural Area, through land owned by the Nature Conservancy and onto a Metropolitan Waste Commission sewer line right of way.

The process is slow and frustrating at times but after walking the area and seeing the potential for wildlife observation, we are satisfied that the effort will pay off.

As discussed in Section H-6, a contract for the final design and fabrication of 13 different informational and interpretive kiosk panels was awarded in September. We are very anxious to get the signs put up as the kiosks have been empty for 1 1/2 years.

The public use staff spent a lot of time working on the development of several new brochures. Working cooperatively with the Minnesota DNR Parks Division a new leaflet was printed that we use as our general brochure. This brochure describes the Minnesota Valley project which in addition to the refuge includes state and local parks, trails, and wildlife management/recreation areas. The design, typesetting, color separations, and printing were all done by the state; the refuge provided some text and assisted with paying the costs for the design work. 30,000 copies of the brochure were printed by the state; we received 15,000 copies for our distribution. The cost to the refuge, apart from some staff time, was \$5,000 (about 17 cents each, an excellent price).

Two new species lists were printed this year--Mammals of the Minnesota Valley, and Reptiles and Amphibians of the Minnesota Valley.

As a part of another contract with a design firm we were able to have a whole series of leaflets covers designed which contain a single art style and graphics look. The Reptiles and Mammals brochures are the first leaflets which have this new "look". Eventually all of our leaflets will have graphically compatible covers rather than an assortment designs prepared at different times by different artists.

Two members of the refuge staff assisted other refuges in the region with the following public use related projects:

ORP Worthington:

- Assisted with the Operational Inspection (I&R portion) of Upper Mississippi Refuge.
- Assisted Necedah Refuge with kiosk panel design and interpretive trail leaflets.
- Assisted Seney Refuge with A-76 SOW for general maintenance contract.
- Assisted Regional Sign shop with A-76 SOW for sign fabrication operations.

Fortunately both these A-76 efforts turned out to be unnecessary as Congress passed legislation exempting the Service from the A-76 contracting requirement for smaller functions.

Landscape Architect Luger:

- Prepared site plans and construction drawings for sign, boat ramp, kiosk, and parking for Trempeleau refuge.
- Prepared SOW and bidding documents for the Architectural and Engineering work on remodeling the headquarters and YCC storage buildings at Seney Refuge.
- Prepared site plans for construction of new interpretive wayside at Necedah Refuge.

Public use on the refuge increased this year over last year. The excellent cross country skiing conditions through most of the winter, reopening of the Bass Ponds, and increase hunter activity probably account for the overall increase. Figure H.1 shows the increase in the number of visitors and activity hours from 1983 to 1984.

PUBLIC USE				
	Visitors		Activity Hours	
	1984	1983	1984	1983
Interpretation	1,416	1,176	1,346	1,508
Env. Ed.	391	467	666	1,401
Rec. W/L				
cons.	1,954	1,545	6,096	7,585
non. cons.	21,805	15,003	29,248	21,381
Total	25,566	18,191	37,356	31,875

Figure H.1. Public Use Figures for 1983 and 1984.

Local news interest in the refuge's deer management program remained high during the year. An excellent T.V. news spot of our deer rocket netting and tagging was broadcast by KSTP, a local ABC affiliate. Several stories were printed by the Minneapolis, St. Paul, and other local newspapers tracking the progress of our urban deer hunt. During the hunt two local T.V. stations aired fairly favorable stories about the hunt. Several radio stations also broadcast interviews with Refuge Manager Crozier and Assistant Manager Larson about the deer issues.

A total of 23 news releases were issued by the refuge during the year:

<u>News Release Title</u>	<u>Date</u>
Cross-country Ski Tour of Louisville Swamp Offered	01/84
Deer Studies Information	03/84
U.S. Fish & Wildlife Service Makes Revenue-Sharing Payment to the County (Ramsey)	03/84
U.S. Fish & Wildlife Service Makes Revenue-Sharing Payment to the County (Hennepin)	03/84
U.S. Fish & Wildlife Service Makes Revenue-Sharing Payment to the County (Scott)	03/84
U.S. Fish & Wildlife Service Makes Revenue-Sharing Payment to the County (Carver)	03/84
Congressman Bill Frenzel Honored	04/84
Wildflower Hike of Louisville Swamp Offered	04/84
Special Canoeing Adventure of Louisville Swamp Offered	05/84
Interpretative Session for Prescribed Burn Offered	05/84
Public Meeting Set on Valley Deer Management	05/84
Wildflower Hike of Louisville Swamp Offered	05/84
Notice Summer Employment Opportunities on a National Wildlife Refuge	04/84

Waterfowl Hunter Training for Youth Offered	08/84
Congressman Martin Sabo Honored	08/84
Applications Accepted for Deer Hunt Permits For Minnesota Valley	08/84
Applications Accepted for Deer hunt Permits For Minnesota Valley	08/84
Congressman James Oberstar Honored	09/84
Wildlife Management Demonstration Open to Public	09/84
Public Invited to Muskie Round-up	09/84
Controlled Deer Hunt Planned for Portions of Minnesota River Floodplain in Bloomington	11/84
Controlled Deer Hunt Planned for Portions of Minnesota River Floodplain in Burnsville	11/84
Minnesota Valley Deer Hunt Partially Successful	11/84

In addition to these refuge releases over a hundred newspaper articles were published during the year relating directly or indirectly to the Minnesota Valley Refuge.

2. Outdoor Classrooms-Students

In Spring 1984, the Bass Ponds Environmental Study Area emerged from a massive storm sewer project with \$ 250,000 worth of new road, curbing, parking areas, and water control structures built there in mitigation. Because construction disrupted access to the area for several months only 373 students were involved in Outdoor Classroom activities during the year.



The new entrance to the Bass Ponds Environmental Study Area shortly after the road was finished--before vandalism (MNV #5939).

3. Outdoor Classroom-Teachers

Eighteen teachers conducted outdoor classroom activities on the refuge in 1984. This is not an impressive showing since there are more than 500 schools in the Metro Area. As refuge staff concentrated on basic signing and facilities, environmental education has been neglected. Only a handful of teachers have demonstrated a lasting commitment to E.E. by continuing to bring their students to the refuge.

MEED employees Katy Urbanski and Kate Winsor continued to work on Outdoor Classroom packages and we now have folders of materials geared to Elementary, Junior, and Senior High levels. At year's end, these still required close scrutiny and final polish before being reproduced.

Senior ORP Worthington maintained liason with Control Data Corporation (CDC) as they developed a 12 hour computer-based course designed to give teachers a background on wildlife survival concepts and fundamental ecology. "Wildways" is arranged in modules dealing with the importance of habitat, energy flow, extinction, and other environmental topics. One module of interest to all refuges is a management simulation program of the Louisville Swamp Unit of the Minnesota Valley Refuge. The finished product is scheduled for delivery on Apple II disks in the spring of 1985.

4. Interpretive Foot Trails

YCC enrollees were given the first of a few tours along the "Caretaker's Walk" at the Bass Ponds Environmental Study Area. Their input and comments from refuge staff and other groups since have guided development of interpretive text for what will ultimately be Minnesota Valley's first self-guided interpretive trail.

By year's end, 60 people had been given "conducted" tours of the Bass Ponds along this trail. We hope to complete layout and submit this brochure to the printers by April 1985. Ten interpretive stations will be established along existing trail using wooden posts, RS-074 Federal Rec. Symbols, and a stencil.

5. Interpretive Tour Routes

Nothing to report.

6. Interpretive Exhibits/Demonstrations

The refuge "System 70" with 50th Anniversary Duck Stamp panels was displayed at the Minnesota State Fair in Aug.-Sept., the Richardson Nature Center (Hennepin Co. Park Reserve District), at Eddie Bauer's downtown store Sept.-Oct., and was back with Hennepin Co. Park Reserve in December. Seven information/orientation kiosk panels erected at Refuge Headquarters and North Black Dog Peserve in 1983 stood empty for more than a year until we obtained confirmation of our suspicion that the Regional Office would be unable to produce what we needed.

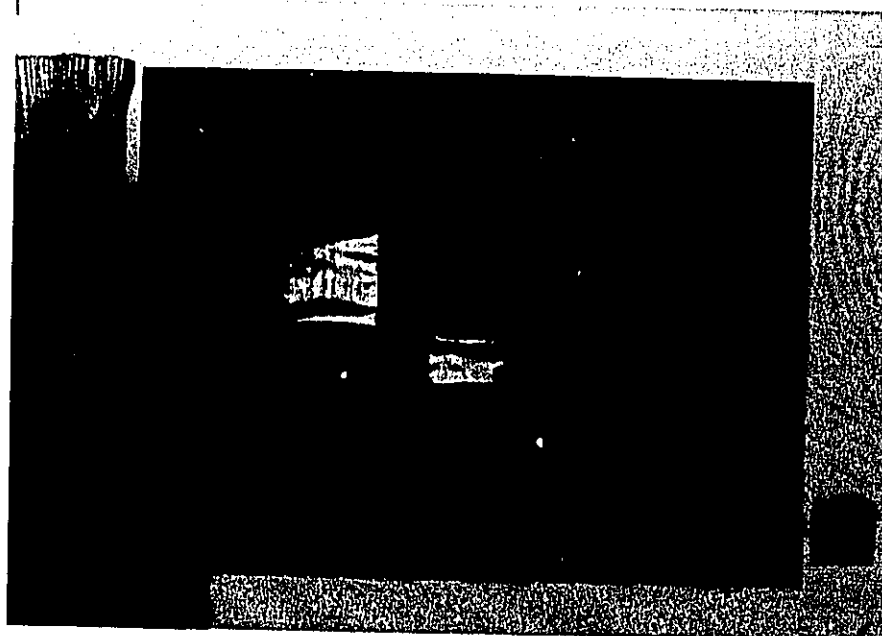
Finally in September, J. Hartman Design of Wisconsin Rapids, WI was awarded a contract to supply 38 marine plywood panels and 138 silkscreened aluminium signs of various sizes after submitting a bid of \$ 21,276. These are scheduled for delivery in February, 1985.



The existing information-leaflet dispenser at the Louisville Unit will be replaced by the new kiosks to provide information to skiers and other (MNV #6020).

In addition to the five headquarters kiosk panels and the two at North Black Dog, foundations have been poured for two 2-panel kiosks at the Bass Ponds and a 3-panel kiosk at Louisville Swamp. Construction of 2 pannel kiosks at Old Cedar Ave and South Black Dog Reserve has not yet begun.

A small 36" X 48" panel inside the front door of our office remained the only interpretive exhibit on the refuge in 1984.



Kate Winsor designed and fabricated this flat panel exhibit. The final result: a clean, creative, and attractive display (MNV #6051).

7. Other Interpretive Programs

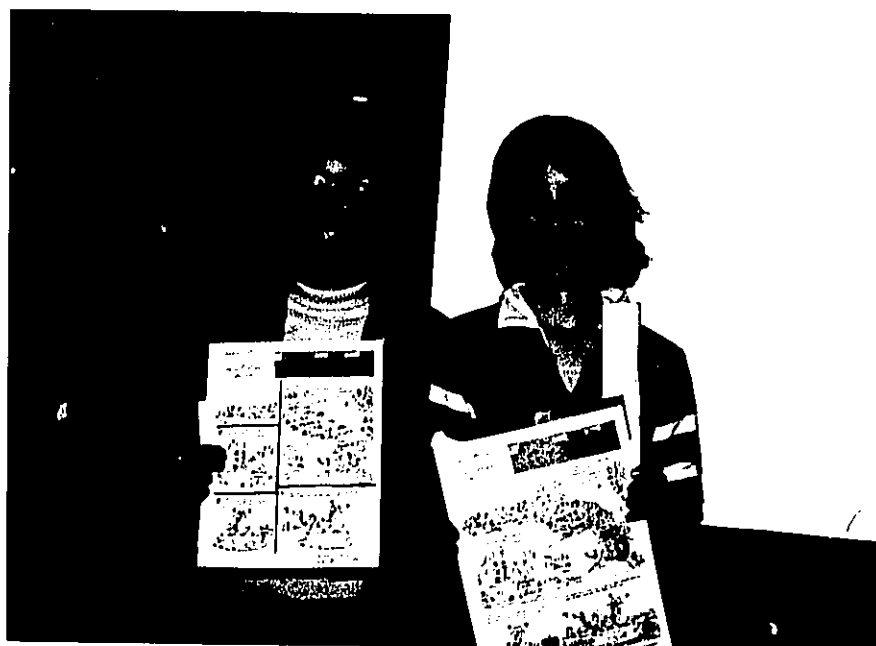
Refuge staff tried a couple of new programs in 1984: a Winter Ecology X-C ski trip in the Louisville Swamp, and a Louisville Swamp Spring Flood Canoe Trip. Both had special logistical problems but provided quality interpretation for those who attended.

Deer tagging continues to provide an excellent hands-on interpretive forum for truly interested visitors. Refuge volunteers assisted other visitors by leading birding and wildflower walks. We signed on another volunteer this Fall who frequently gives presentations to small groups on his favorite topic: the Eastern Bluebird. Because we have minimal facilities, many of our interpretive presentations occur off the refuge and these continue to be reported as "Personal Appearances" on our monthly Public Use Reports.

Other Presentations

<u>Date</u>	<u>Staff</u>	<u>Subject/Group</u>
01/19/84	Worthington	Present habitat Mgmt. program to Adv. Hunting Ed. class at Woodlake Nature Center
01/25/84	Crozier	Attended hunting committee meeting at Eden Prairie & presented refuge needs
02/06/84	Worthington	Slide program on deer banding for DNR parks
02/09/84	Crozier	Present Comp. Plan to Shakopee Planning Committee

02/11/84	Moyer	Presentation on Louisville Swamp Winter Ecology to the public
03/06/84	Worthington	Volunteer Deer Trapper Appreciation Dinner & program on deer
03/20/84	Moyer	National Wildlife Week/Oak Grove Elementary
03/21/84	Moyer	National Wildlife Week/William Byrne Elementary



Tyson Veen and Wade Heideman each received a 1984 Duck Stamp for their winning entries in a "Paddy O'Mallard" coloring contest which involved 488 third grade students in seven schools (MNV #5495).

03/21/84	Worthington	National Wildlife Week/Rahn Elementary
03/22/84	Moyer	National Wildlife Week/Northgate Elementary
03/23/84	Worthington	National Wildlife Week/Indian Mound Elementary
04/03/84	Crozier	Present deer program to Bloomington NRC
04/10/84	Crozier	Brief Friends on gifts catalog status
04/11/84	Crozier	Attend Eden Prairie hunting ordinance meeting
04/14/84	Worthington	Interpretative tour for Audubon group
04/25/84	Moyer	Duck Stamp visitation to Oak Grove, William Byrne, & Northgate
05/06/84	Worthington	Presentation to American Assn. of Planners
	Moyer	and tour of Bass Ponds
05/08/84	Moyer	YCC orientation
05/12/84	Moyer	Conduct guided canoe trip for public
05/18/84	Moyer	Volunteer Appreciation Night
05/21/84	Worthington	Present hunt proposal to Bloomington City Council
05/21/84	Moyer	Lions Club Presentation
05/22/84	Worthington	Public meeting on deer management in Bloomington
05/23/84	Worthington	Present hunt proposal to Bloomington Parks and

05/23/84	Worthington	Present hunt proposal to Bloomington Parks and Recreation Commission
06/04/84	Worthington	Present hunt plan to Bloomington/Burnsville City Councils
06/13/84	Moyer	Tour of Bass Ponds/ R.O. group
06/13/84	Larson	Interview with Bloomington Cable T.V.



Assistant Manager Tom Larson became our resident TV star in 1984 by giving thoroughly articulate and accurate interviews on our metro deer situation (MNV #5671).

06/14/84	Moyer	Presentation at Black Dog Fen/W.O. group
06/18/84	Gelvin	Discuss problems, cause, and treatment of erosion/YCC
06/18/84	Gelvin	Wildlife vs. Habitat diversity/YCC
06/19/84	Gelvin	Plant I.D./YCC
06/21/84	Gelvin	Discuss a Biologists duties/YCC
06/26/84	Moyer	Interpretative Presentation
06/29/84	Gelvin	On-site environmental education topics
07/04/84	Moyer	Interpretative Presentation to SCA
07/10/84	Worthington	Meet w/Fred Mohrman on visitors center and I&R plans for refuge
07/10/84	Crozier	Briefing and tour with F. Mohrman
07/10/84	Gelvin	Birding techniques/YCC
07/11/84	Crozier	Briefing and tour w/Congressman Martin Sabo
07/18/84	Moyer	Bass ponds History/YCC
07/19/84	Larson	Slide Presentation on deer population and exclosure/YCC
07/19/84	Moyer	Tour of Bass Ponds with Federal people
07/24/84	Gelvin	Observe and discuss habitat of wildlife/YCC

08/10/84	Moyer	Bass Ponds Interpretative Walk/YCC
08/29/84	Crozier	Met w/D. Peterson 3rd District Cong. Candidate



Refuge volunteers kept ORP Worthington busy stacking a truckbed full of prairie plant plugs during a prairie salvage operation near the Fort Snelling Federal Building. Two days later, this site was bulldozed (MNV #5840).

09/01/84	Moyer	Prairie plant salvage operation
09/12/84	Moyer	Young Waterfowlers presentation-habitats and management
09/12/84	Worthington	Conduct Louisville Archery hunt orientation session
09/18/84	Crozier	Presentation with DNR to Shakopee Council on hunting
09/22/84	Moyer	Bass Ponds tour to Friends group
09/22/84	Worthington	Marsh Management and Bass Ponds tour; duck stamp display
09/26/84	Worthington	Tour of refuge to Mpls. Women's Club
09/26/84	Crozier	Tour to D. Eichhorn of W.O. and J. Gunderson of R.O.
09/27/84	Worthington	Conduct Young Waterfowlers Program
10/03/84	Crozier	Presentation to HCPRD in Shakopee
10/03/84	Worthington	Intro. refuge to Env. Field Office Supervisors
10/03/84	Moyer/Winser	Tour of Bass Ponds to field supervisors
10/05/84	Winsor	Tour for R.O. Fisheries Senior Staff
10/09/84	Worthington	Latin American Visit-conduct programs
	Luger	
10/09/84	Crozier	Attend "Friends" meeting

10/10/84	Moyer	Presentation at Creek Valley Elementary
10/10/84	Worthington	Latin American Workshop
10/10/84	Winsor	Latin American tour of Bass Ponds
10/16/84	Moyer	Presentation Edina Lion's Club
10/17/84	Moyer	Presentation to MN Deer Hunter's Association
10/18/84	Moyer	Presentation at Bass Ponds to Metro Rivers
	Crozier	Group and general tour.
10/20/84	Worthington	Program on Wildlife Mgmt. at Minn. Assoc. of
		Env. and Outdoor Education Conference
10/26/84	Moyer	Presentation to Mpls. Engineering Club
10/26/84	Worthington	Bass Ponds/Jordan Elementary
11/07/84	Larson	Metro hunt orientation
11/09/84	Larson	Minn. Nat. Assoc. Present Computer use at MNNWR
11/19/84	Moyer	Duck Stamp presentation to Oak Grove Elementary
11/20/84	Mitchell	Presented volunteer opportunities at MNNWR
11/28/84	Mitchell	Presentation on deer management/Kennedy H.S.
12/17/84	Crozier	Presentation to Chanhassen Council Requet MA
12/20/84	Crozier	Presentation to HCPRD re. Wilkie Park

8. Hunting

White-tailed Deer (Metro Shotgun and Archery)

Following a series of public meetings, city council hearings, and planning sessions with representatives from the Minnesota Department of Natural Resources, a special two day, either sex, hunt was conducted in portions of the Long Meadow Lake and Black Dog Lake Units of the refuge. The hunt was held during November 17th and 18th. Because the hunt was held in the midst of a highly populated urban area, several special safety related regulations were established.

Both the state and the refuge areas open to hunting were divided into hunt compartments. A set number of hunters were assigned to each compartment based on acreage, topography, type of weapon, and vegetation cover.

COMPARTMENT	CITY	WEAPON	# PERMITS
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Refuge Compartments:

L1	Bloomington	shotgun	8
L2	Bloomington	shotgun	6
L3	Bloomington	shotgun	4
L4	Bloomington	shotgun	3
B1	Burnsville	bow-arrow	25
B2	Burnsville	bow-arrow	25

State Park Compartments:

F1	Eagan	shotgun	40
F2	Mendota Heights	shotgun	10
F3	Mpls. Airport	bow-arrow	30

All hunters who received a permit were required to attend a special safety-orientation meeting which was held November 7th at the Historic Fort Snelling Information Center. Presentations were given on the following topics:

- Deer population data
- Hunt area habitat
- Hunter safety
- Special rules and regulations

In addition to the general state hunting regulations the following regulations were enforced during this special permit hunt:

- All hunters were required to wear blaze orange or red clothing above the waist.
- All shotgun hunters were required to hunt from an elevated position (tree stand).
- No shotgun hunters were permitted to walk anywhere in the area with a gun that was not unloaded and cased.
- No hunter could pursue a wounded deer outside the assigned compartment.
- All hunters were required to check in and out of the hunt compartment through designated access points.

The hunt compartment access points were manned by refuge personnel continually from 5:00 a.m. to 6:00 p.m. both hunt days. Special signs designed to alert the public that a hunt would be in progress were placed around the perimeter of all compartments prior to the start of the hunt.



The Region 3 required "Hunting in Progress" signs were enlarged to a 24" X 36" size as an additional safety feature during the metro deer hunt--not aesthetic but visible (MNV #6048).

News releases were issued to local communities, and a special mailing was made to all residents along the valley's bluff edge in Bloomington, alerting them of the hunt.

Pre-hunt planning meetings were held with representatives of the local communities' police departments to coordinate patrol efforts and to make them aware of any special problems that could occur.

During the two day hunt, refuge officers patrolled the compartments perimeters continually, ensuring that no unauthorized persons entered the hunt area. Five Minnesota DNR Conservation Officers were assigned to patrol the hunt areas, and assistance was also given by Service Special Agents O'Brien and Decker.

The hunt went very smoothly. No accidents or any unusual incidents were reported. A total of 148 hunters participated in the hunt, killing a total of 62 deer (57 deer killed and retrieved by hunters, another 5 were wounded and later found dead by refuge and park personnel). See Section G-8 for more information about this hunt.



People attending the white-tailed deer management workshop were separated into discussion groups like this one being moderated by Leslie Condon (MNV #5642).

Management of the hunt was very costly. The refuge staff devoted approximately 300 hours of time in pre-hunt planning and obtaining the necessary local government approvals. Another 150 hours of time was used in processing the permit applications and the staff time during the actual two day hunt totaled 108 hours. These hours added up to a salary costs of about \$ 8,250.

For a variety of reasons we were the lead agency in promoting and administering this hunt and consequently had a large administrative burden. The State park has indicated that they will take over the permitting responsibilities for this joint hunt next year. Another large cost saver next year will be the fact that our pre-hunt planning should be minimal. Because we did plan the hunt well this year we gained a considerable amount of credibility with local governments, some members of which were very hesitant to permit hunting of any kind. We demonstrated that a controlled hunt could be conducted safely in an urban area.

In meeting with a local Humane Society representative, we were given a copy of an article "Taking a Stand Against Wildlife Refuge Exploitation" (Humane Society News-Summer 1984) which details how to conduct a protest on a national wildlife refuge. We took this as a friendly warning and prepared as best we could for the possibility of some form of protest occurring during the hunt. Fortunately none materialized.

White-tailed Deer (Archery)

An archery hunt was again conducted on the Louisville Swamp Unit of the refuge. Each year we have conducted this hunt (this was the fourth year) we have liberalized the permitting process. This year we issued 1,000 archery permits, valid for the entire state archery season (9/15/-12/31).

We received 1,447 applications for the permits. Our Datapoint computer was used to handle the permit selection and permit mailing label printing.

Hunter success is very difficult to measure at Louisville because we do not maintain any hunter check stations. Successful hunters can take their deer to any one of several state registration stations within the established kill zone. However, based on surveys conducted by the DNR we anticipate a hunter success of about 10%.

Next year the state will establish a separate "Kill Zone" for the Minnesota River Valley. This zone includes a larger area than the refuge, but we will get a much better idea of the number of deer killed in Louisville.

Again this year an orientation session was conducted by the refuge and state trail staff for archery permittees. Approximately 200 hunters attended the September 12th meeting which was held in the auditorium of Bloomington's Olson Jr. High School. A quick showing of hands indicated that a vast majority of hunters at this meeting had never hunted Louisville Swamp before. The agenda for the meeting included the following: Louisville habitats, deer population information, access facilities, and locations, rules, and regulations, and hunter safety.

Waterfowl

The only authorized waterfowl hunting on the refuge occurred as a part of our Young Waterfowler Program.

Young Waterfowlers is a program designed to give young people, aged 14-17 years old, an opportunity to develop their hunting skills through a series of fun and informative sessions and field experiences. A Youth Firearm Safety certificate is required, however, participants who have never hunted are encouraged to enroll. Each participant is assigned an adult volunteer guide who assists them at the training sessions and takes on two hunting trips on the refuge during the season.

The program is jointly conducted by the refuge, the Minnesota DNR, the Minnesota Waterfowl Association, and the Wildlife Heritage Foundation.

Topics covered in the program include: waterfowl identification, waterfowl habitat and management, hunting equipment selection, and decoy placement. Two field days at the Minneapolis Gun Club were held and the participants learned safety and practiced shooting techniques.

Unfortunately the person responsible for publicity and recruitment for the program did a "disappearing act" and we had to scramble at the last minute to get youths signed up. Because of the publicity problems only 10 youths enrolled in the program. The feed back we received from these participants was very positive and we are very hopeful that this program can be a success if all the pieces fit together.

9. Fishing

The word is out. Fish from the river contain P.C.B.'s and these fish re-stock refuge waters during flooding. Despite Health Dept. warnings which we post at popular fishing areas throughout the refuge, we still have a few hundred fisherman every year. However, more seem to be fishing for sport these days and have no intention of eating their catch.

Until pollutants are reduced, fishing will continue to be incidental to the refuge and not encouraged.

10. Trapping

Because of the unusually prolonged flooding of the Minnesota River and the adjoining wetlands no muskrat trapping program was conducted on refuge this year.

11. Wildlife Observation

Another year of prolonged flooding forced the closure of the long loop of the Mazomani Trail again this year. In November we raised the Jab's Farm Dike across Sand Creek (see section I). This improvement will make access to the Jab's Farm, Carver Rapids Wayside, and the Mazomani Trail possible during all but the most severe floods and will make winter skiing across the dike much safer. Louisville's seven miles of hiking and cross-country skiing trails offer some of the best wildlife and viewing opportunities on the refuge.



The restored house at the Jabs' Farm is a welcomed rest stop on the 6 mile Mazomani ski trail and, remarkably, self-operated with no vandalism (MNV A).

The Bass Ponds Area was reopened to the public during the spring following the completion of the City of Bloomington's storm sewer improvement project (see section I). The short hiking trails that wind through the ponds and marshes are popular places for birders and hikers. Being so close to a residential area, the Bass Ponds also attract joggers and unfortunately more than its share of vandalism (see section H-17).

Black Dog Lake is often the site of unusual bird sightings and has a reputation among knowledgeable birders as a hot spot. Excellent wildlife viewing opportunities are available at the Black Dog Overlook and from the trail which is still being constructed. When completed this two mile long trail will provide outstanding opportunities for

viewing wildlife in the marsh and prairie. The trail will cross land owned by the Nature Conservancy and Minnesota DNR in the Black Dog Preserve.

12. Other Wildlife Oriented Recreation

Nothing to report.

13. Camping

Nothing to report.

14. Picnicing

Nothing to report.

15. Off Road Vehicles

Nothing to report.

16. Other Non-Wildlife Oriented Recreation

Nothing to report.

17. Law Enforcement

Four members of the refuge staff currently have law enforcement authority. Each officer attended the 40 hour refresher training held in Bloomington and everyone qualitted with their revolver twice during the year.

ORP Moyer regularly patrols the refuge units during the high visitation periods. However, a lot of our enforcement problems come during the evening and night hours when the refuge experiences a fair amount of vandalism. The following is a list of the vandalism that occurred on the refuge since recordkeeping started in August.



Bloomington Fire Marshall investigating the remains of a portable toilet at the Bass Ponds. No evidence was found in the ashes (MNV #5733).

Vandalism Record

<u>Date</u>	<u>Description</u>
07/06/84	Toilet torched at Bass Ponds
08/14/84	Sawed lock at Bass ponds
08/23/84	Broke two locks and one gate post at the shop
08/29/84	Cut chain to lock and one gate post at the shop
09/02/84	Stolen manhole cover at Bass Ponds
09/11/84	Stolen lock at Louisville north gate
09/20/84	Broken lock at Bass Ponds
09/25/84	Marsh Blind sign damaged at Bass Ponds
10/11/84	Cut gate at Bass Ponds
10/15/84	Cut gate chain at the shop
10/17/84	Fire set on E. Bass Pond water control structure
10/19/84	Gas stolen out of station wagon parked at the shop
10/31/84	Chain locking gas tank at shop cut
11/15/84	Cut lock at Bass Ponds gate
11/19/84	Gate rings broken at the Bass Ponds
11/13/84	Bass Ponds gate broken
11/21/84	Minor damage to control structures at Louisville
11/27/84	Broken rail at Black Dog

Citations were issued and fines paid for the following violations.

Refuge Violations

<u>Date</u>	<u>Violation</u>	<u>Fine</u>
01/02/84	Dog off leash	\$ 25.00
05/02/84	Vehicle trespass	\$ 50.00
05/22/84	Vehicle trespass	\$ 50.00
05/28/84	Vehicle trespass	\$ 50.00
06/03/84	Vehicle trespass	\$ 50.00
06/03/84	Vehicle trespass	\$ 50.00
09/29/84	Hunting w/unplugged shotgun	\$ 50.00
09/30/84	Possession of firearms	\$ 50.00
09/30/84	Possession of firearms	\$ 50.00
09/30/84	Possession of firearms	\$ 50.00

In addition to these cases several written warnings for a variety of infractions were issued.

Minnesota Valley Refuge's Law Enforcement Plan was written and approved by the regional office in March.

A problem that is becoming increasingly prevalent is caused by improper or inadequate erosion controls at construction sites adjacent to the refuge. As development of the bluff around the refuge increases we are faced with mounds of inadequately anchored fill which tends to erode and cause sedimentation directly on to refuge land. Generally we try to resolve these conflicts with the developer or with the permitting sections of the appropriate municipal government.



This bluff edge erosion was on lands owned by an architectural-engineering firm who should know better than anyone else on how to control erosion at a construction site (MNV #5696).

Two thousand dollars was budgeted as a small ARMMS projects this fiscal year for the purchase of law enforcement equipment, including body armor, night sights for our revolvers, mace, and other miscellaneous items.

18. Cooperating Associations

Nothing to report.

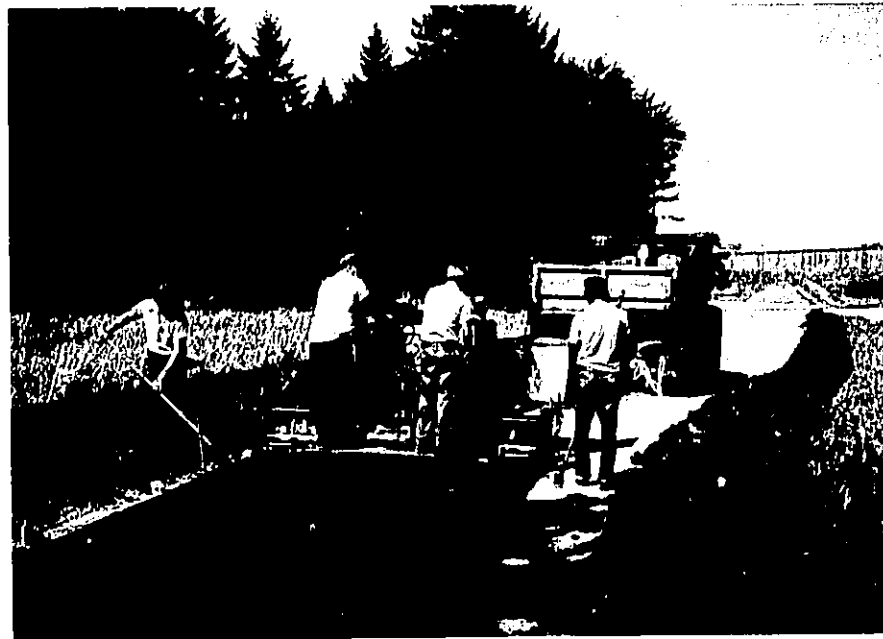
19. Concessions

Nothing to report.

I. Equipment and Facilities

1. New Construction

In the headquarters there was a considerable amount of construction and earth moving in the past year in association with the I-494 river crossing construction project. As part of the process we lost several acres of buffering trees and open space between the highway and the headquarters. In return a berm topped by a five foot privacy fence has been built as a buffer. Another large construction project in the headquarters area, was to pave the entry road and four parking lots. As part of the same contract the gravel path between the visitor parking area and existing overlook was paved. A new bike path was built and paved to connect the headquarters to the existing city bike path adjacent to the refuge. An exposed aggregate sidewalk replaced the problem-prone wooden block one connecting the headquarters building to the cul-de-sac.



The city-state bicycle path now has a direct connection to the FWS information kiosk and overlook (MNV #5887).

Smaller projects in the headquarters area but of no less significance were done for account. Two hundred thirty five (235) feet of post and rail separating the new bike path from the recently planted native prairie was installed by the YCC. Six (6) additional fence panels were built to match the already existing privacy fence and placed near the maintenance shop as a visual screen for the refuge storage area.



YCC crew erecting the post and rail fence adjacent to the prairie restoration project at the Headquarters. (MNV #5727)

Due to a mitigation agreement with the City of Bloomington's Public Works Department the Bass Ponds gained several new features. The entry road was graded and paved, two parking lots were constructed and paved and several water control structures were installed. A containment pond was also built so that pollutants can be detected and contained before entering refuge waters. As part of the agreement 500 feet of post and rail, and a security gate were installed. Two kiosk pads with footings and curbing were constructed for account at the Bass Ponds, the kiosk structures are presently being constructed and will be in place in 1985.

Construction at Louisville of a permanent water control structure on the Jab's Farm cross-dike during the months of November and December helped the refuge staff accomplish phase one of a two phase project to control impoundment levels behind the dike. Its completion has also made it safe for both pedestrian and maintenance traffic during high water periods. Phase two will be completed in 1985, this calls for replacing a presently rundown unsafe bridge structure on the Sand Creek main channel with a new three bay water control structure and raising the dike 1.5-2 feet in elevation along its entire length. Phase two will hopefully be funded by Ducks Unlimited.



Stoplog structure/bridge being constructed by refuge personnel on Sand Creek in the Louisville Swamp Unit. (MNV #A)



Forms for kiosk footings being built by Paul Irrthum and Dan Olson at Louisville Swamp trailhead. (MNV #6020)

During this same period a three panel kiosk site was located for the Louisville Trailhead. The refuge staff have since cleared and graded the site, poured the concrete footings, installed the curbing, and graveled the kiosk pad. The kiosk structure is presently being fabricated and will be put up early in 1985. Soil borings have also been done for five future construction sites at Louisville.

At the Black Dog Unit several hundred feet of post and rail in addition to a gate have been installed adjacent to Burnsville's Black Dog Park, this has solved the wheeled vehicle trespassing problems. During this same period work was begun on a pedestrian/maintenance access road that when finished will allow bird watchers, cross country skiers, and refuge maintenance personnel to move through a path alignment which up to now has been seasonally impassable. The path alignment exists atop the metro-sewer main. Three quarters (3/4) of a mile of this road has been cleared, graded, and graveled. Work will continue to completion in late 1985.



Maintenanceman Paul Irrthum using a rented grader to shape the new pedestrian/maintenance trail at the Black Dog Unit (MNV #5873).

As part of the mitigation process for the St. Paul Airport Expansion Project, the Minnesota Department of Transportation is constructing a water control structure on Blue Lake in the proposed Wilkie-Rice Lake Unit. This will allow refuge staff to manage water levels in Blue Lake creating for suitable habitat.

Several minor construction projects have included fabricating partitions for the office, surveying for the North Sand Creek, Jabs' Dike sites and constructing wood duck traps.

2. Rehabilitation

Upon completion of the berm and privacy fence surrounding headquarters/maintenance the headquarters sign was re-sited and placed. A major effort was begun to restore 5.5 acres of disturbed land to native prairie in and around the headquarters/maintenance area. The site preparation and seeding were contracted.

New carpeting was installed in the lower level of the headquarters building, at no cost to the Service. The carpet was furnished by a sewer and water contractor who after working at the headquarters failed to seal an underground pipe, and a weekend rainstorm resulted in a mudslide throughout the basement level of the office damaging the existing carpet.

Major dike rehabilitation on the I-494 moist soil unit was done as a donation by Schaffer Construction who had excess fill from a nearby construction project. In addition a water control structure was installed by Schaffer Construction thereby making it possible to control water within the moist soil unit.

An ongoing project at Louisville consists of realigning, laying a filter blanket, and graveling a low wet portion of the Mazomani trail for better pedestrian/maintenance vehicle access.



The Mazomani Trail was rehabilitated by using a filtration fabric and approximately 300 tons of gravel to make it again passable for both pedestrian and maintenance traffic. (MNV #21)

High water damage to the Black Dog overlook resulted in the replacement of some floor decking, replumbing and adding concrete to the corner timbers. Hopefully the repair work will alleviate future problems.

A steel insert was fabricated and installed in the East Bass Pond wooden control structure to better control structure movement and leakage.

Other minor projects included the YCC painting, trail cleanup, and boundary sign posting. Graveling roads at the Bass Ponds, Black Dog, Louisville were accomplished as well as placing rip-rap on the middle-road (Louisville) to prevent erosion during flood time.



The construction of exposed aggregate sidewalk to headquarters office building was part of the overall headquarters improvement project (MNV #6002).

3. Major Maintenance

Vandalism was frequent this year and increased the maintenance work. The major damage was done by someone driving through the two gates that secure the maintenance area. Posts were broken and had to be reset in concrete while gates had to be rehung. The Bass Ponds had its share of vandalism this year as several post and rails had to be replaced and the main gate has been broken through several times.

The ceiling in the furnace room was sheet rocked and finished force account, after water had damaged a portion of it.

Problems developed with drainage in the lower parking lot at the Bass Ponds. The drain inlet installed by the City of Bloomington cannot handle the concentrated runoff which then flows over the curb and has been creating erosion problems. The solution was to grade and rip-rap a shallow drainage swale to accomodate the overflow. It has proved to be a successful solution.

The prescribed burning program, picking up trash dumped on the refuge and plowing snow are other major time commitments which keep the maintenance staff on the move.

4. Equipment Utilization and Replacement

After being moth-balled for a period of time due to inadequate roll-over protection the "swamp buggy" (Ranger ATV), was returned to action with the addition of a certified roll-over protection cage.

The small GSA dump truck was painted and overhauled at Camp McCoy, and has been returned. The two jeeps continue to have mechanical problems. The CJ5 went in for a major transmission overhaul and the J-10 will soon have to follow.

Our newest and only major equipment purchase this year has been the Honcho four-wheel drive (ATV), which will be used primarily for fire suppression.

5. Communication Systems

The refuge is currently in the process of negotiating a site for a new radio repeater to be placed. At the present it looks as though the site will be in Jordan, Minnesota which borders the southern edge of the Louisville Swamp Unit. Once the radio repeater has been installed the staff will have 2-way communication capability throughout the full 36 mile length of the refuge.

6. Computer Equipment

The following computer equipment is presently housed at the Minnesota Valley NWR:

A. Datapoint Equipment

1. Datapoint 1560 terminal (128K RAM) with:
 - a. 9315 hard disc drive (10 MB memory + .5 MB add'l on floppy disc drive)
 - b. 9611 letter quality printer (35 cps)
 - c. 0245 cut-sheet feeder
 - d. 9621 dot matrix printer (125 cps)
2. Datapoint 1800 terminal (128K RAM) with:
 - a. 1842 floppy disc drive (2 drives-.5 MB memory each)
 - b. 9236 dot matrix printer (125 cps)

B. Tektronix Equipment

1. 4016-1 terminal (640 X 640 pixel screen) with
 - a. 4631 hard copy unit
 - b. 4907 floppy disk drives
 - c. 4954 digitizing table with graphics tablet
 - d. Racal-Vadic 3451 modem

- C. Apple II + terminal (64K RAM) with:
- a. Sears 13" color TV screen
 - b. Apple Disk II drive (200K memory)
 - c. Atlantic Micro Drive II (200K memory)
 - d. Houston Instr. Hipad Digitizer
 - e. MPI dot matrix printer

The Datapoint equipment is most frequently used for word processing, and accounting spreadsheets but is also being used to develop and implement our own Databus programs.

The Tektronix equipment is designed for graphics capability. We are presently using it to access our G.I.S. database and are now able to generate maps and print them out on the hard copy unit. In the future, we plan to upgrade and expand our database using the digitizing table.

The Apple computer system was the first computer equipment to be purchased by the refuge. It has been used to develop environmental education programs and has word processing, accounting spreadsheet and graphics functions.

7. Energy Conservation

This past year an energy audit was done by the Energy Conservation Consultants, Inc., their findings were very positive and reflected little or no problems. Presently we are considering a possible window conversion project for the headquarters, that would alleviate changing the storm windows twice a year.

8. Other

Nothing to report.

J. Other Items

1. Cooperative Program

The two existing Cooperative Agreements with the Minnesota Department of Natural Resources were continued throughout the year for the purpose of fire suppression assistance and joint management of the Louisville Swamp Unit of the Refuge and the Carver Rapids Unit of the State Trail System.

Since these agreements are working so well a third agreement was approved for the joint management of the DNR's Black Dog Preserve Scientific Natural Area (SNA) and the Black Dog Lake Unit of the Refuge. This agreement resulted mainly from the need for the FWS to have legal access into the south side of the Black Dog Lake Unit. For over a year, the refuge had been working with Northern States Power (NSP), the City of Burnsville (City), and the Chicago Northwestern Railroad (RR) to develop a safe public access into the south side of the Black Dog Unit of the Refuge. We were attempting to develop something at the City's Black Dog Park but abandoned that idea after learning about the costs of a safe RR crossing at that point and NSP's plans for an expanded coal yard.

In lieu of that, we moved to the west to take advantage of land acquired by the Minnesota Department of Natural Resources (DNR). At that location, we have developed a 3-party agreement that calls for public parking to be provided by the City on the existing Metropolitan Transit Commission's Park and Ride lot.

For pedestrian access from the MTC lot to the RR crossing, the FWS will gravel and maintain an existing trail on city-owned park land through a cooperative agreement between the City and the FWS. The DNR will provide the RR crossing which they have secured from the RR and which the FWS can use through the new cooperative agreement with DNR. For access from the RR crossing to the Refuge, the DNR has by the new agreement given the FWS permission to maintain a pedestrian and maintenance trail.

All of this sounds complicated but we have it just about all worked out and only the legal agreement between the City and FWS needs to be finalized. The agreement has been drafted, reviewed by the City and at the time of this writing has been submitted to the Regional Office for final processing.

On this same project, plans have been made for the joint development of a 2 panel information kiosk by the Natural Conservancy, the Minnesota DNR and FWS.

The joint development of the Old Cedar Avenue Trailhead through the Cooperative Agreement with the City of Bloomington is underway and the grading of the parking lot was completed just before winter weather ceased work. Hopefully, the city's contractor will complete the installation of the curb and surfacing of the parking area in early

spring and the area opened to the public. This new trailhead will be used for access to the Bass Ponds Area to the east through a tract of land recently acquired. Also, we hope it will stop or slow down some of the abusive behavior by 4-wheeled vehicle drivers and litterbugs as there will be a gate placed on Old Cedar Avenue at the trailhead that will be closed after we get the permission of the other two landowners or upon acquisition of the remaining two ownerships at the end of Old Cedar.

Cooperation with the Wildlife Section of Minnesota DNR is also expanding. The comprehensive plan for the valley calls for the establishment of the Raquet Wildlife Management Area (GMA) just west of the Upgrala Unit. The FWS is automatically involved in that project as the Service owns about 40 acres of it as a result of a land purchase across Highway 169 on the Upgrala Unit. The FWS intention is to eventually exchange that tract with Minnesota DNR for DNR lands elsewhere. In the meantime one of the largest landowners in the GMA wishes to sell to DNR who is interested in purchasing it provided they have some assurances that public hunting will continue to be allowed and not prohibited by the City Councils. Refuge Manager Crozier and Senior ORP Worthington worked with the new DNR Game Manager Jon Parker at Shakopee to obtain that assurance from the Cities of Shakopee and Chanhassen by making presentations to both councils. In the end both cities agreed to participate with DNR in developing new Firearm Discharge Ordinances that allow public hunting without permit within the GMA.

The Metro Deer hunt also stimulated considerable new cooperative working relationships with adjacent communities particularly police departments and the DNR Sections of Parks, Wildlife and Law Enforcement. The level of this cooperation is detailed elsewhere in this report.

The City of Carver approved a cooperative agreement that calls for the joint development of a trailhead at the Carver entrance to the Chaska Lake Unit and the inclusion of City's 25 acres of marshland into the refuge. The City is expecting to receive some state grant money for development of a canoe launch area and parking lot. The plan is for the FWS to construct an information kiosk area at the edge of the parking area and a pedestrian path into and eventually through the Chaska Lake Unit to the City of Chaska. We still need to finalize the site plans with the City and hope some accomplishment can be made this coming construction season.

3. Items of Interest

a. Congressional Contacts

The "Friends of the Minnesota Valley" worked especially hard to keep the Minnesota Congressional delegation supportive of the refuge. There were visits to the refuge by the aides of three congressmen and two senators as well as visits by four of the local congressmen. The Friends hosted a luncheon at the refuge office for all of the aides which was well attended. Refuge Manager Crozier gave a brief status report on the refuge at the

luncheon. He gave similar briefings when each of the four congressmen visited the refuge to receive a photo presentation from the "Friends". Short field trips to the Bass Ponds and the Long Meadow Lake vicinity were also part of these congressional visits. In addition to these refuge visits there were several occasions when Manager Crozier visited the local congressional offices or met congressional aides at other meetings or luncheons. Such contacts are definitely a plus for the refuge.

b. The Friends of the Minnesota Valley

The "Friends" have continued their strong support of the refuge and during the past year worked very hard in the area of congressional relations by hosting luncheons with congressional aides and making special presentations of a beautiful framed color photo of a Minnesota Valley landscape to each of the representatives and senators. They also funded the printing and distribution of the refuge gifts catalog.



Congressman Vento was really happier than he appeared when given an appreciation photo by Richard Sanford of the "Friends" (MNV #5562).

There were differences with some members of the group over the refuge metro deer hunt. They made honest, straightforward statements of opposition at hearings and to refuge staff, but once the decision had been made and the hunt was underway nothing else has been said on that issue. At this point in time we continue to view the "Friends" as a real asset to the refuge and indeed a friend that we can call upon when there is a need.

c. Gifts Program

The Gifts Program became well established during the past year and by the end of the year it is beginning to show some benefit however, if it were not for the outside financial support of the project we would question it's practicality at this station and believe at most refuges it is not worth the effort. Just putting together the Gifts catalog was a much more time consuming task then originally envisioned. There were many reviews by the sponsors, the regional and Washington office which required many rewrites. Then we had asked the graphics designer, Seitz, Yamoto, Inc., to rework the design several times which was somewhat embarrassing since they were volunteering their time and materials. Finally it was printed as a result of contributed funds by the "Friends of the Minnesota Valley".

Distribution was a major problem as suitable mailing lists were not available but eventually the Regional Office of the Audubon Society gave us mailing labels for their Twin Cities members which were used for the first mailing. The "Friends" paid for the postage and envelopes since we did not want to use government franked postage envelopes. Since the Audubon mailing during September, 20 people have contributed approximately \$700 in mostly \$25.00 amounts, with some up to \$ 100.00. Since that mailing there has been a second distribution to over 200 of the largest corporations in the Twin Cities. In the two weeks since that mailing there have been no positive responses.

It is our evaluation that unless there can be a massive distribution done at a reasonable cost the return is not going to be significant from mailings. One on one solicitations with large potential donors would probably pay off better then developing elaborate Gift catalog brochures for mailing purposes.

All in all it has been a good educational experience for the refuge and FWS as a whole and we still have hopes that there will be significant contributions to the refuge.

d. Metro Rivers Corridor Study Committee (MRCSC)

In December, 1980, the 96th Congress passed P.L. 96-6-7 which established the Metropolitan River Corridors Study Committee. The Act charged the committee to conduct a study on the preservation, enhancement, protection, and use of designated recreation areas along the (Mississippi, Minnesota, and St. Croix) rivers and make recommendations as to policies which should be adopted and actions which should be taken to optimize the recreational, fish and wildlife, historic, natural, scientific, scenic, and cultural values of the river corridor areas. They were also expected to include recommendations for specific area of local, regional, state, and federal agency cooperation for river corridor management of the designated recreational areas and to review and utilize existing studies and consider existing plans, programs, and policies as they affect present and future recreational use.

In November, 1983, the Metropolitan River Corridors Study Committee (MRCSC) formally began its work towards completion of its legislatively mandated objectives.

During the period from November, 1983, through January, 1984, the MRCSC held monthly meetings to solicit input from various federal, state, regional, and local officials and the private sector concerning the important issues effecting the quality of the Mississippi, Minnesota, and St. Croix rivers. After a review of this information, the MRCSC developed a work program for its two-year study and identified key issues to be addresses by the committee.

Since then the committee has completed the data compilation phase of the study which satisfied the first \$75,000 USFWS grant. An additional \$75,000 USFWS grant was added to by a \$47,500 donation from private sources. They are currently assembling and analysing data as part of the analysis phase of the study. Some of this work is being done under contract with most of it by the interagency work group. In 1985 they expect to complete six reports and analyze data on the effectiveness of existing government arrangements and authorities, land and water use conflicts and financing alternatives before they submit the final report in November, 1985, to the president, congress, and governmental units. The refuge staff hopes that their recommendations will help speed up the acquisition and development of the refuge.

e. Highway 18 Bridge Crossing

The Hennepin County Highway Department has continued developing their proposal for a new County and State Highway 18 river crossing (CSAH-18) which crosses the Bloomington Ferry Unit and Wilkie Units. Since CSAH-18 crosses USFWS fee-title land the County hopes to work out an exchange agreement with the USFWS at this time so that there are no legal obstacles in the way when they get construction funding. At the close of the year we have not reached an agreement on the details of an exchange. The County wishes to simply exchange acre for acre while the refuge staff believes that the bridge will impact much more then the actual construction site so we hope to have an exchange of land for the construction site to satisfy the 6(f) provision of the Land and Water Conservation Fund Act and to receive some mitigation measures to satisfy the requirement of the Section 4(f) of the Department of the Transportation Act.

2. Other Economic Uses

Because of the abnormally high water that existed well into the summer months the only use that did occur other then marsh hay cutting was the rental of the RR Triangle near the Louisville Unit by the Renaissance Festival, Inc. for parking during the six weekends that the Renaissance Festival operates in August and September. For

several years we have continued this practice in faith that the Renaissance Festival, Inc. was attempting to secure other properties inside the designated refuge boundary to exchange for this small excess refuge tract. The rental fee is \$200 for 3 acres.

3. Credits

The following staff members assisted in the preparation of this narrative report.

Edward S. Crozier

- Highlights
- Land Acquisition
- Planning
- Other Items
- Feedback

Mary S. Mitchell

- Administration
- Habitat Management
- Wildlife
- Equipment and Facilities

Ed Moyer

- Administration
- Public Use

Thomas J. Larson

- Habitat Management
- Wildlife
- Administration

Thomas C. Worthington

- Administration
- Public Use

Jim Luger

- Equipment and Facilities

The report was typed and assembled by Mary Mitchell and Jennifer Coon. The report was proofread by Tom Worthington and Ed Crozier.

K. Feedback

Although there were no giant strides during the past year toward the completion of the refuge it was a very satisfying year for myself as refuge manager. Most of that satisfaction stems from having the pleasure of working with an outstanding refuge staff. Frequently refuge managers are blessed with good people to work with but less frequently does everything seem to click into place. The past year was one of those times. Certainly there were frustrations but they eventually disappeared as by the end of the year the memories are quite pleasant.

Unfortunately some of those good people were employed under temporary appointments or through State of Minnesota programs and we have since lost them. A frequent fantasy of mine is being manager of a wildlife refuge where there is no red tape, particularly in hiring who we want when we want them.

The passage of the Minnesota Valley National Wildlife Refuge Act Amendment and the receipt of new land acquisition funding was a big boost for morale. It seemed like things were on the move again and the momentum was rebuilding but by the end of the year the concern for the national deficit had again eliminated acquisition funding from the President's FY 1986 budget. This loss was compensated by the possibility of leasing the Wilkie Unit which will be a major expansion of the refuge.

We have a small complaint about the funding system used by the Region. In recent years, much of the fiscal year has gone by before we actually know how much money there will be available, particularly for special projects like ARMMS. That hampers our ability to plan and implement our work on an orderly basis. Everything gets forced into the last three or four months of the year lowering the quality of the product.

Another complaint is regarding the Initial Project Worksheet (IPW) process. The classic example is where the refuge prepared an IPW for security lighting at the headquarters and estimated the job at \$20,000. Somewhere along the line that estimate was reduced to \$10,000 which was the amount allocated to the refuge by the Washington Office. The region then took \$ 2,500 so now all we are likely to end up with is a single pole light which is considerably less than envisioned.

Another example is where we were allocated \$22,000 for habitat improvement work at the Louisville Unit and the original IPW requested \$25,000. In the end that was used for soil borings on future construction sites because the regional engineers didn't have time to use the money as it was intended. In the long run the decision to get soil borings might be wise but it's discouraging to see funds allocated specifically for wildlife being spent in that fashion. In the end the job got done anyway by the refuge crew using their own ingenuity.

A special concern of mine is the general way the Service, including myself, handle personnel. Seldom do we hand out any "attaboys" or pat anyone on the back for a job well done. After the staff conducted a complicated urban deer hunt without any complaints or incidents when there could have been a lot of problems and controversy, I sort of expected someone from the Regional Office to say something about a job well done, but not a word was heard. I know I don't compliment the staff enough on a daily basis but, unfortunately, most of the Service operates the same way.

All in all it was a good year for the refuge and I think the staff also had an enjoyable year too. Maybe it is a result of mellowing out or wisdom with age but whatever, the problems don't seem so urgent or critical, yet just as much work gets done.